

50

Albert Durer Revived:

Or, a BOOK of

Drawing, Limning, Washing,

Or Colouring of

M A P S and P R I N T S:

And the Art of **P A I N T I N G**, with the Names
and Mixtures of Colours used by the Picture-Drawers.

With Directions how to lay and Paint Pictures upon Glass.



THE TRUE PORTRAITURE OF ALBERT DUNHAM, THE VERE PRIME MINISTER AND CHANCELLOR OF GERMANY.

Are to be sold
by Thomas
Dunham
at the
Art of Dunham, according to the
Dunham's
Cognate
other excellent Picture-makers, according to the
Dunham's
Cognate
other excellent Picture-makers, according to the
Dunham's
Cognate

Albert Durer Revived:

Or, a B O O K of

Drawing, Limning, Washing,

Or Colouring of

M A P S and P R I N T S :

And the Art of *P A I N T I N G*, with the Names
and Mixtures of Colours used by the Picture-Drawers.

With Directions how to lay and Paint Pictures upon Glass.

O R, T H E

Young-Man's Time well spent.

In which he hath the Ground-Work to make him fit for doing any
thing by Hand, when he is able to Draw well.

By the Use of this Work, you may Draw all Parts of a Man, Legs, Arms, Hands
and Feet, severally and together. And Directions for Birds, Beasts, Landskips,
Ships, and the like.

Moreover, Grounds to lay Silver or Gold upon, and how Silver and Gold shall
be laid or Limned upon Size, and the Way to temper Gold and Silver, and o-
ther Metals, and divers kinds of Colours, to Write or to Limn withal, upon
Vellum, Parchment, or Paper, and how to lay them upon the Work which you
intend to make, and how to Varnish it when you have done.

How also to Diaper and shadow Things, and to lighten them, to stand off; to
deepen them, and make them glister.

I N T H I S B O O K

You have the necessary Instruments for Drawing, and the Use of them, and how to
make Artificial Pastils to Draw withal. And also Directions how to Draw with
Indian-Ink: Wherein you have also Mr. *Hollar's* Receipt for Etching, with In-
structions how to use it.

Very useful for all Handicrafts, and ingenuous Gentlemen and Youths.

By Hammer and Hand all Arts do stand.

Infelix qui pauca Sapit, spernitque Doceri.

L O N D O N, Printed for John Garrett, at his Shop as you go up the Stairs of the
Royal-Exchange in *Cornhill*, where you may have choice of all sorts of large and small
Maps, Coloured or Uncoloured, Variety of *Dutch* and *French* Prints, and Prints done in
Metzo-Tincto, very good *Indian Ink* to Draw withal, and all sorts of the best Copy-Books,
and *Cocker's Tutor* to Writing and Arithmetick, being a new and most easie Method, so
easie, that the meanest Capacity may understand it at the first Sight, and several Sorts of
Coloured Sashes to set before Windows.

Of necessary Instruments for Drawing.

FOR Implements, these are the only necessary ones, Pens made of Ravens-Quills, because they are best to Draw fair, and Shadow fine, and small Charcoals, Black Lead, White Lead, Red Lead, a Feather, and a Pair of Compasses.

The Use of these Instruments.

FOR your Charcoals, they must be slit into small slender Pieces, and then sharpened at the Point. You may chuse your Charcoals thus, they are finer grain'd than others, and smooth when they are broken, and soft, and they have a Pith in the middle of them, which is the best token to know them by: The Use of them is to Draw over your Drafts first withal; because if you should Draw it false at first, you may easily wipe it out, which you cannot so well do with any other Thing.

Your Black Lead is to Draw over that again which you drew before in Charcoal, because this will not wipe out with your Hands when you come to draw it with your Pen; and if you shall Draw it with your Pen before this, your Charcoal will furry your Pen, that you could not write with it, and besides you cannot so well mend your Faults with a Pen, as with a Black Lead; for what you do with your Pen, you cannot alter; but wherein you err with your Black Lead, you mend it with your Pen.

The Pen is the finisher of your Work, with which you must be most exact, knowing it is unalterable, therefore you must be sure your Work is right before you Draw it with your Pen.

Black Chalk is to Draw on Blue Paper with, which is not to be used till you be pretty perfect in Drawing.

White Lead is to do the lightest Parts of that you Draw before with Black Chalk.

Your Compasses are not to be used constantly, for they will spoil you, and that you cannot Draw without them, but only when you have finish'd your Drawing with Charcoal, you may measure, if it be every way right, before you Draw with your Black Lead.

The Feather is to wipe out the Charcoal, where it is Drawn false, before you Draw it again, and this you must be sure to do, or else you will be confounded with Variety of Stroaks, so that you shall not know which is the right Stroak.

Having these Implements in Readiness, the first Practice of a Drawer, will be readily to Draw Circles, Ovals, Squares, Pyramids, &c. and the reason of exercising you first in these is, because in these you will be fitted for the Performance of other Bodies: As for Example, your Circle will teach you to Draw Spherical Bodies, as the Sun, Moon, and Stars, and the most Flowers, as the Rose, Daisie, &c. the most Vessels, as Cups, Basons, Bowls, Bottles, &c. the Square will fit you for all manner of Compartments, Plats, Buildings, &c. your Pyramids for sharp Steeples and Turrets, &c. your Ovals for Faces, Shields, &c. for it is impossible to Draw the Body of a Picture before you can Draw the Abstract.

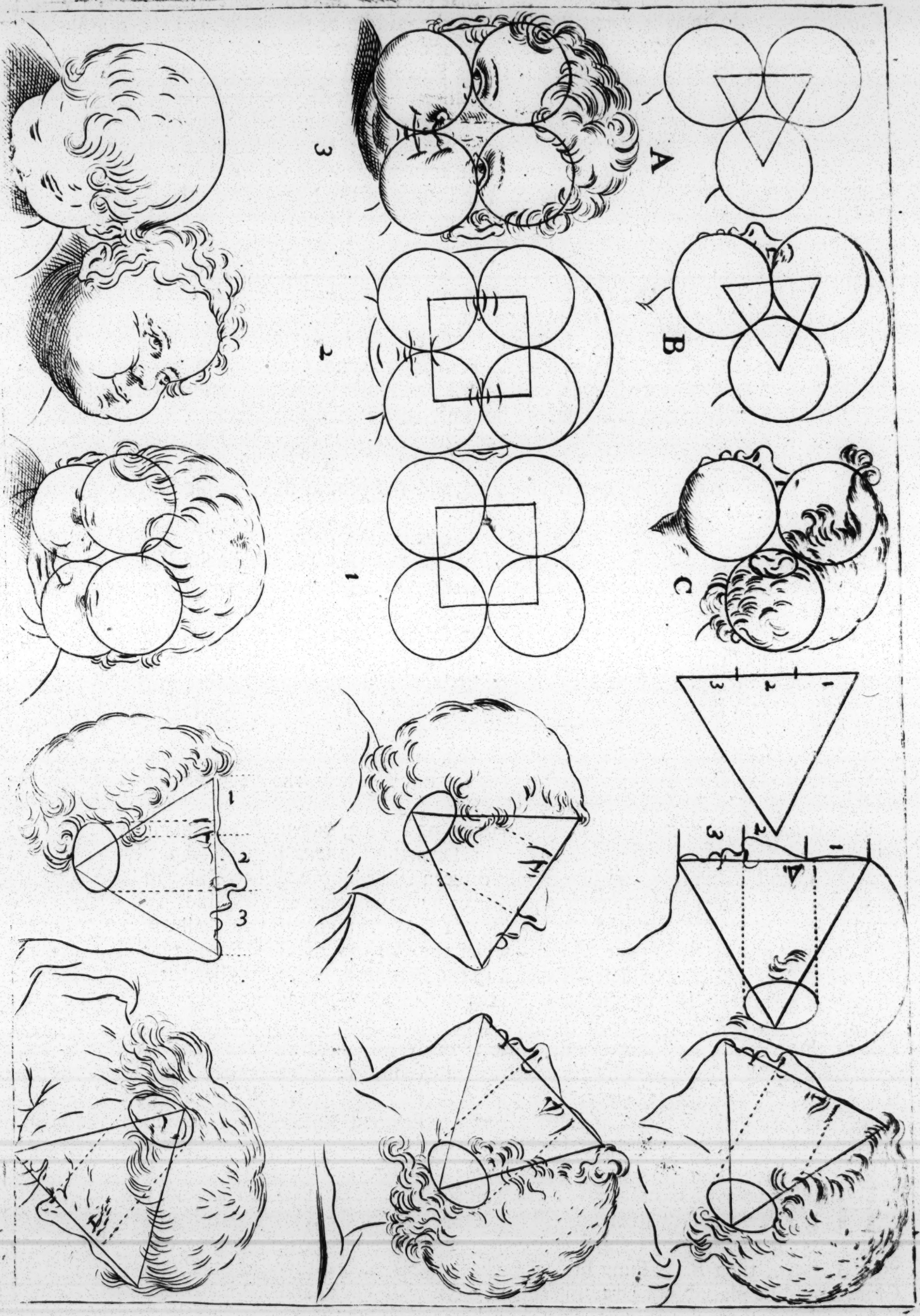
When you can do these, practise to Draw Pots, Balls, Candlesticks, Pillars, a Cherry with a Leaf, &c. but be sure you be perfect in the Out-Strokes, before you go to draw the Shadows within.

How to Draw Pictures with Indian Ink.

HAVING the Out-strokes of your Picture drawn with Black Lead, and the Dust of your Charcoal well wiped off with a Feather, take a Stick of *Indian Ink* of the very best sort, for if it be whitish and hard within, it is naught, and will not work well, a little Place of it you may wet with fair Water, or your Spittle, which you please (tho' some do hold the latter to be the better, because it is not so subject to sink into the Paper, which to be sure must be very good *Dutch Paper*) having thus moistened one little Place of the *Indian Ink*, you must have about six or eight small Pencils, of several Sizes, which must be put on little Sticks, about three Inches long, the better to hold your Pencils, and so with one Pencil you must Draw withal, and with the other Pencil at the other End of your Stick you must (it being a little wet in your Mouth) wipe off the hard Edge, but be sure you do it very faint at first, and so you may shadow it higher, as you please, but if you do work it too dark at first, you will be in Danger of spoiling your Picture, in making it lighter; the least Touch of your Pencil on the *Indian Ink* in Drawing of a Face, is enough: This way of Drawing is very pleasant and delightful, and is much in use, and doth set off very finely, if your *Indian Ink* be not the counterfeit sort, but very good, of which you may have very good choice where this Book is sold, viz. at the Print Shop at the *Exchange-Stairs* in *Cornhill*.

How to make Artificial Pastiles to Draw withal.

TAKE a great Chalk-Stone, and make deep Furrows or Holes in them, two or three Inches long, and so wide, that you may lay in each a Quill, then take white Chalk ground very fine, temper it with Oil or Wort, and a little new Milk, and so make Pap thereof, then pour it into the Furrows of Chalk, and in a short time you may take them out, and roll them up, or let them lie in them till they are quite dry, and then take them, and scrape them into a handfom Form; you may temper Lake with burnt Alabaster for a Red, and so for others, having regard to some Colours that will not bind over hard, which must have a little Water put to them in their grinding.



Another way how to make Pastiles.

TAKE Tobacco Pipe Clay before it is burnt, and grind it well with a little weak Gum-water, and so put to it Vermillion, or Blue, or Yellow-Oker, or what Colour you please, but be careful your Gum-water be but very weak, or else it will bind too hard, you may make it up in little Rowls, and then lay it a drying, and so scrape it to a Point for your Use.

Directions in Drawing of a Face.

FOR the better assisting you in the Drawing of a Face, you may make use of this Direction, when you have Drawn the Circle of the Face (which you must do at first with a plain Circular Line, without making any Bendings in or out, till you come towards the finishing of it) you may make a Stroak down from that place of the Forehead which is even with the Chin, coming down where you should place the middle of the Nose, and the middle of the Mouth, observe that this Stroak must be struck that way which the Face should turn, either to one side, or straight right, and then this Stroke will exceedingly help you to place the Features rightly, that they may not stand all awry, but directly one under another; when you have made this Stroke, you may make another Stroke a-cross, to guide you for the even placing of the Eyes, that one be not higher than another: Now if the Face turn downward, the Stroke must be struck; that the Eyes may turn answerable with the Face downward; when you have done that, make another Stroke for the length of the Nose, where the End of the Nose should come, and another Stroke for the Mouth, that it be not made crooked, still observing to make all the Strokes turn one way, either up or down, according as the Face turns; for if the Face turn up or down, the Eyes, Nose, and Mouth must turn with it; when you have made these Strokes rightly, proceed to the placing of the Features, as in the Rules before.

There is this threefold equal Proportion usually observed in a Face. 1. From the Top of the Forehead to the Eyebrows. 2. From the Eyebrows to the Bottom of the Nose. 3. From thence to the bottom of the Chin; but this Proportion is not constant, for sometimes the Forehead is lower than at other Times, and some Mens Noses longer, others shorter, and therefore this Rule is not always to be observed, but only in a well proportionate Face: The distance between the two Eyes is just the length of one Eye, if it be a full Face; but if it turn any thing side, then that distance is lessened accordingly; the Nostrils ought not to come out further than the Corner of the Eye in any Face, and the Mouth must be placed always between the Eyes and the Chin, just under the Nose.

Further Directions about a Face.

BECAUSE the greatest Difficulty and principal Part of this Art lies in the lively Drawing of a Face, I thought good to add these further Directions, to make you the more perfect in the Drawing of it.

1. If you would rightly Draw a Face, that it may resemble the Pattern you Draw it from, you must in the first place take notice of the Visiognomy or Circumference of a Face, whether it be long or round, fat or lean, big or little, that so you may be sure in the first place to Draw the right Visiognomy or Bigness of the Face, which if it be a fat Face you shall perceive the Cheeks to make the side of the Face to swell out, and so make the Face look as if it were square; if a lean Face, the Jaw Bones will stick out, and the Cheeks fall in, and the Face will look long and slender; if it be neither too fat nor too lean, the Face will be round for the most part.

When you Draw the utmost Circumference of a Face, you must take in the Head and all with it, otherwise you may be deceived in Drawing the true Bigness of a Face.

2. You must diligently and judiciously discern and observe all the Master Touches, which give Life to a Face, and discover the Graces or Disposition of the Mind, (wherein lies the whole Grace of the Work, and the Credit of the Workman) as you shall discern a smiling Countenance most easily in the Mouth, when the Corners of the Mouth turn up a little; a frowning Countenance is easiest discerned in the Forehead, Eyebrows bending, and somewhat wrinkling about the Top of the Nose, between the two Eyebrows; a stay'd and sober stay'd Countenance is best discerned in the Eye, when the Upper Eye-lid comes somewhat over the Ball of the Eye; a laughing Countenance is easily discerned all over the Face, and so is an angry wrathful Countenance, by extraordinary Frownings; also there are some Touches about the Eyes and Mouth, which give Life and Spirit to a Face, which you must diligently observe, and you shall by little and little find out in good Masters Works, which you should chiefly desire to imitate, and not Botchers.

General Rules for the Practice of Drawing.

1. **H**AVING your Charcoal neatly sharpened, you must at the first in Drawing of a Face, lightly Draw the Out-stroke or Circumference of the Face, just according to the Bigness of your Pattern, making it to stand foreright, or to turn upwards or downwards, according to your Pattern, then make some little Touches where the Features, as the Eyes, Nose, Mouth, Chin, should be placed, not Drawing them exactly at the first, and having thus exactly pointed out the Places where the Features should be, begin to Draw them more exactly, and so proceed, till the Face be finished, and then make the Hair, Beard, and other Things about it: In making of a Side-face, you need not at first exactly Draw the Nose, Mouth, and Chin that stand in the utmost Line, but only make it at first but a bare Circumference, turning this way, or that way,

B

according



according as the Pattern doth, and then make the Mouth, Nose, and Chin to come out afterwards in the right Places and just Proportion.

2. The Circles, Squares, and Triangles that are made in the Print about the Face, are to guide your Apprehensions the more readily to the framing of one, that being, as it were, led by a Line, you may the more easily know whereabouts to place the Features, as Eyes, Nose, Mouth, &c. which when you are able to do without them, these are of no use at all, but only to guide you at the first to the placing of them.

3. In the third place, you must be sure to place the Muscles in their right and proper Places; by the Muscles, I mean all the Shadows that are caused by some Dents or Swellings in the Face, and be able to find out the Reason of every Muscle, that so you may proceed to work with the more Judgment: You shall perceive the Muscles most in an old and wither'd Face, and you must first Draw the principal of them, and then you may the more easily Draw the lesser within; you must be very exact in the right placing of them, or else you spoil your Draught, be it never so good.

4. Observe to make the Shadows rightly, and be sure not to make them too dark where they should be faint; for if you do, you can never recover it to make it light again, and so the whole Face will be marr'd, and appear unhandsome; the Shadows are generally fainter and lighter in a fair Face than in a swarthy Complexion: When you have finished your Draught, you will do very well to give here and there some hard Touches with your Pen, where the Shadows are darkest, which will add a great Life and Grace to your Drawing.

When you have finish'd the Face, then come to the Ears and Hair, wherein you must observe this Rule; having Drawn the Out-line of it, you must first Draw the principal Curls or Master Strokes in the Hair, which will guide you with ease to do the lesser Curls, which have their Dependance on them; always make your Curl to bend, and turn exactly, according to the Pattern, that they may lie loose and fast, and not look as if they were stiff, stubborn, and unpliant: When you have Drawn the Curls rightly, you must in the last place, strike in the loose Hairs which hang carelessly out of the Curls.

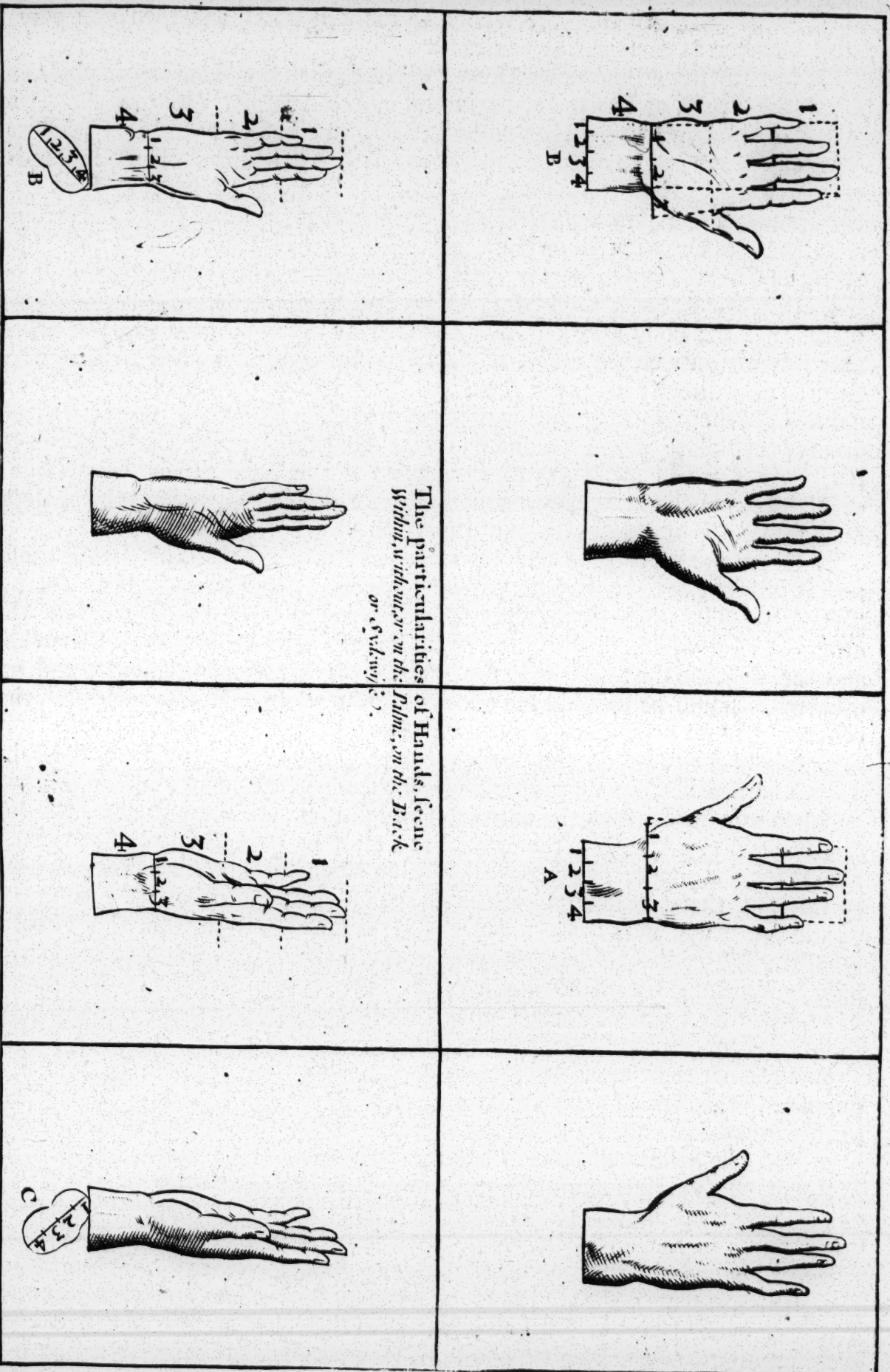
When you can Draw a Face, (which is the principal thing in the Art) then go to Hands and Arms, Legs and Feet, and so to full Bodies of Men and Women, which are the most difficult Things, which if you can attain to perform, with a well-grounded Celerity, nothing will be difficult to you, but will be most easie, as Flowers, Birds, Beasts, Ships, or any other thing that is to be Drawn by Hand.

Of Drawing Hands and Feet.

BUT to come particularly to Hands and Feet, which you ought to spend some Time about, before you come to the whole Bodies; because they will be too difficult for you to enter upon, till you have pretty well practis'd your Hand in the Drawing of other things, more especially Hands and Feet, which are the most difficult Members of the Body to Draw, next the Face; by learning of which, you will the more easily attain the rest, with less Difficulty and greater Perfection; and it is for certain a Thing of most singular Commendation and Estimation, lively and exactly to Draw a Hand, which hath so many Varieties of Posture and Action, and you will find it a very difficult Thing to imitate it in every one of them, in the Spirit and Life of them, without some Lameness or Imperfection.

The Actions and Postures of the Hand are so various, that I can give you no certain Rule for Drawing of them, only take this for a general Rule, when you first draw it with Charcoal, you must not Draw it exactly; that is to say, to make all the Joints or Veins, or other things, to appear but only lightly and faintly, to touch out the Bigness of the Hand, and the manner of the turning of it, with faint Touches, and not with hard Strokes, and then if you have done that right, part the Fingers asunder, or close, according to your Pattern, with the like faint Stroke, then mark that place where any of the Fingers do stand out from the others, and make a faint Resemblance of it; having so done, if you perceive your Draught to be right, proceed to Draw it more perfectly, and make the bending of the Joints, the Wrist-bone, and other principal Things, somewhat exactly; and lastly, go over it again, and draw every small Bending, or Swelling of the Fingers, and make the Nails, Knuckles, and Veins, so many of them as appear, and every Thing else that you can discern: Observe this Rule in all your Drawings, that before you come to Draw your Draught with Black-Lead, or other Things, you must blow off the loose Dust of the Coal off from your Drawing, or faintly wisk over your Drawing with a Feather, that so you may leave it faint, so that you must but just perceive your Strokes, and by this means you will the better see how to draw it again with your Black-lead, otherwise you would not be able to discern your Strokes.

For the Proportion of a Hand, you have it sufficiently set down in the Print, by Lines and Figures, which shews the Equalities of Proportion in a Hand, and how many equal Measures there are in it, which you should endeavour to be acquainted with, that so you might know when a Hand is well proportioned with just and equal Distances; but I would you should take notice of this Rule or Exception, according as the Hand turns one way or other, the Proportions must be shortned, according as they appear to the Eye, as you shall see in the foreshortning of the Hand in the Print, so much as the Hand turns away from our Sight, so much it loses of its ordinary Proportion, and is made to shorten unto that Proportion that the Eye judges of it; nay, sometimes a whole Finger, sometimes two or three, or more, is lost to our Sight, by the turning of the Hand another way from us, and so they must be wholly left out,



The particularities of Hands, seen
Within, with water on the Palm, on the Back
or Side way.

The proportion of the Hand consisteth of 3 measures of the Noe, of which you are to make the three equal parts; figures marked perpendicularly 1, 2, 3. the length of which figures is divided into 2 equal parts thereby to assigne a half making a third part unto that half marked as 1, 2, 3. which we give unto the Back of the Thumb, and Forefinger unto the first Thumb, running a prickled line perpendicularly up unto the top of the right hand angle of the square marked above with 1 making a prickled line within the which the said Forefinger is contained, the length and toppe thereby exceeding the upper joint of the Middlefinger. That being divided into 3 equal parts the two equal parts are the two upper parts, shall be of equal height unto the upper joint of the Little finger, as appeareth in the figure of the Hand represented at B. And the Thumb shall not exceed the second or middle joint of the Forefinger. Then resteth a 4th measure for the Wrist which is the measure of the Noe the big or lower part of which is divided into 4 parts which shall serve us for Hands, seen on the side the same measures are observed as well in the hand seen without as in the back marked A as in the side seen or without. And the 2nd measure marked with A or C but the 3rd measure shall serve for the 2nd measure of the Wrist. With apperth in figures of the hand back marked in the opposite page in the shape or by small lines marked in the small forms marked 1, 2, 3, 4 under the ways whereof the 6th measure shall serve of the said Wrist.

out, and not made: For Feet there is not so much Difficulty in the making of them as Hands, and in drawing of them you must proceed to the same way that was shewed for the making of Hands: When you can draw Hands and Feet pretty well, then go to Arms and Legs, wherein is little difficulty; when you can draw the Hands and Feet, afterwards proceed to whole Bodies.

Of Drawing whole Bodies, Rules to be observed.

1. **I**N all your Drawings, you must draw it at first with your Coal, but very lightly and faintly, for then you may the easier mend it, if you draw amiss.
2. In the drawing of a Body, you must begin with the Head, and be sure to give a just Proportion and Bigness to that, because all the Body must be proportioned according to the Head.
3. At the first Drawing of the Body with your Coal, you must draw nothing perfect or exact, before you see that the whole Draught is good, and then you may finish one thing after another as curiously as you can.
4. In Drawing a Body, first Draw the Head, then the Shoulders in their exact breadth, then draw the Trunk of the Body, beginning at the Armpits, (leaving the Arms till afterwards) and so draw down to the Hips on both Sides, and before you observe the exact breadth of the Waste: When you have thus done, draw first that Leg that the Body stands upon, and afterwards that Leg that stands loose, or from the Body, and last of all draw the Arms, and then the Hands, either joined to the Body, or separated from the Body, according to your Pattern.
5. In your Drawing, before you place the Parallel-Joints, Sinews, and Muscles directly opposite in a strait even Line, one against the other, as the Shoulders, the Armpits, the Waste, the Hips, the Knees, and so every thing else, that one may not be higher or lower than the other, that the Body may not seem crooked or deformed, but every Parallel-Joint bend, &c. may directly answer the other, that is opposite thereunto; and to this end you may strike a strait Stroke directly cross the Shoulders, to direct you to place them even and strait one against the other; so also you may do in other Places, as the Armpits, Waste, Hips, Thighs, or any other place where you should place one thing even with the other; for you must have the same Care in all parts of the Body, as you have in one place, where any Bending, or Members of the Body have or do require a direct Opposition one against the other; you may make use of this Help and Direction.
6. Observe, that if the Body turn one way or other, then this Stroke must be so struck, so that it may answer the bowing of the Body, as if the Body stoop a little downwards, the Stroke must be struck sloping, or sideways, and so you must then make the Shoulders, and other Things which should stand strait against one another, to be somewhat higher than one another, so that that Side that the Body turns upon the Shoulders, and other Things that otherwise should be placed even one against the other, must be made somewhat lower than the other side, more or less, according as the Body stoops more or less.
7. As you are to be careful in the right placing of all level or parallel Joints, Bendings, Sinews, and Muscles, so you must also look exactly to all perpendicular Joints, Muscles, &c. that is, when you have drawn the outmost Draught, and are come to draw the Joints and Muscles, that are contained within the Body, you must be as exact in placing them, that are directly just under one another, as you are in placing them even, that are opposite one to another; and to this end, that you may place Things exactly perpendicular; that is, in a strait Line under one another, you may strike a straight perpendicular Line from the Throatpit down to the Privities, just in the Middle, or Seam of the Body, where you may discern the parting of the Ribs, and from thence strait down to the Feet, as you shall see in the Print of the Man, the Line will direct you to place Things even perpendicular, that the Body may stand strait upright, and not appear crooked and awry.
8. Take notice of the Bowings and Bendings that are in the Body, to make that Part that is opposite to that which bends, to answer to it in bending with it, as if one side of the Body bent in, the other side must stand out answerable to the bending in of the other side; if the Back bend out, the Belly must bend in; if the Belly come in, the Back must stick out; if the Breech stick out, the Thigh that answers to it in opposition, must come in; so also in any other Part of the Body, as if the Knee bend out, the Hams that answer to it, must come in; and so for any other Joints in the Body, this Rule must be exactly observed, otherwise the Body will be made grossly and absurdly, and will be very gouty, without any Proportion.
9. Endeavour to make all Things of an equal Proportion and Bigness, not to make one Arm bigger than the other, or one Leg bigger than the other, or any Breast bigger than the other, or any one Part of the Body in an unjust Proportion; but as every Thing must answer to the Bigness of the Face, so one Member must answer to another in Bigness, that so there may be a sweet Harmony in the Parts of the Body, that it may not have broad Shoulders, and a thin slender Waste, a raw bone-Arm, and a thick gouty Leg, or any Part disproportionable from the other, unless it be so that any Part of the Body doth turn awry from our Eye, as if the one Arm should be seen sideways, and the other foreright, then the one Arm must be made so much less than the other, by how much it turns away from our Sight, and appears less to our Eyes; and if so one Leg be seen full or foreright, and the other Leg be seen sideways, then it must be made so much less than the other, by how much it turns away from your Sight.
10. As you must observe a just proportion in the Bigness of your Draught, so also in the Length, that one Thing may not be too long for the other; the Body may not be too long for the Legs, nor the Legs too short for the Body, nor one Leg longer than the other, or one Arm longer



longer than the other, but every thing may have its just Proportion, both for Bigness and Length, unless it be so the Body shortens awry in any part from your Sight; as if one Leg stand behind another, it must be made so much shorter than the other, according to that distance that it is removed from your Eye; and so if one Arm remove it self any whit from your Sight, that comes first to the Eye, and stands nearest to the Sight, must be made longer than the other, and the other be made so much the shorter by how much it turns away from your Sight; so likewise if any part of the Body be fore-shortned, that is, do appear so to your Eye as to hinder the Light of the full Latitude of that part of the Body, (as you shall see more perfectly shown when I come to Fore-shortnings) I say, upon such an Occasion the Body, or that part of the Body, must be made to shorten, according to that proportion that the Eye judges it, as you shall see perfectly in the Print of the Fore-shortnings.

11. Observe the exact distance of one thing from another, how far distant they are, that you may be exact in your Draught, and perfectly imitate your Pattern.

12. Observe how much one part of the Body sticks out beyond the other, or falls in within the other, or whether it stands even with the other; and to this end you may strike a small Stroke down from the top of the Shoulder, along by the outside of the Body strait down to the Feet, and this will direct you how far one part of the Body should stand out beyond the other, and how far other Parts should come in; let nothing be done without a Rule and Judgment.

13. Let nothing be done hard, sharp, or cutty; that is, let not the Bendings, that are either in the Body or in the Joints, be made as if they were Dents or Cuts in the Flesh, with sharp corner Strokes, but finely round, and sloaping, like Bendings, and not like Cuts in the Body; this is a common Fault among Learners, which they cannot chuse but commit, and therefore you should be the more careful of it, by imitating your Pattern exactly in the very manner of making every Stroke and Touch, and endeavour to find out the Ground and Reason of every small Stroak and Touch that is given, for nothing must be done without Judgment.

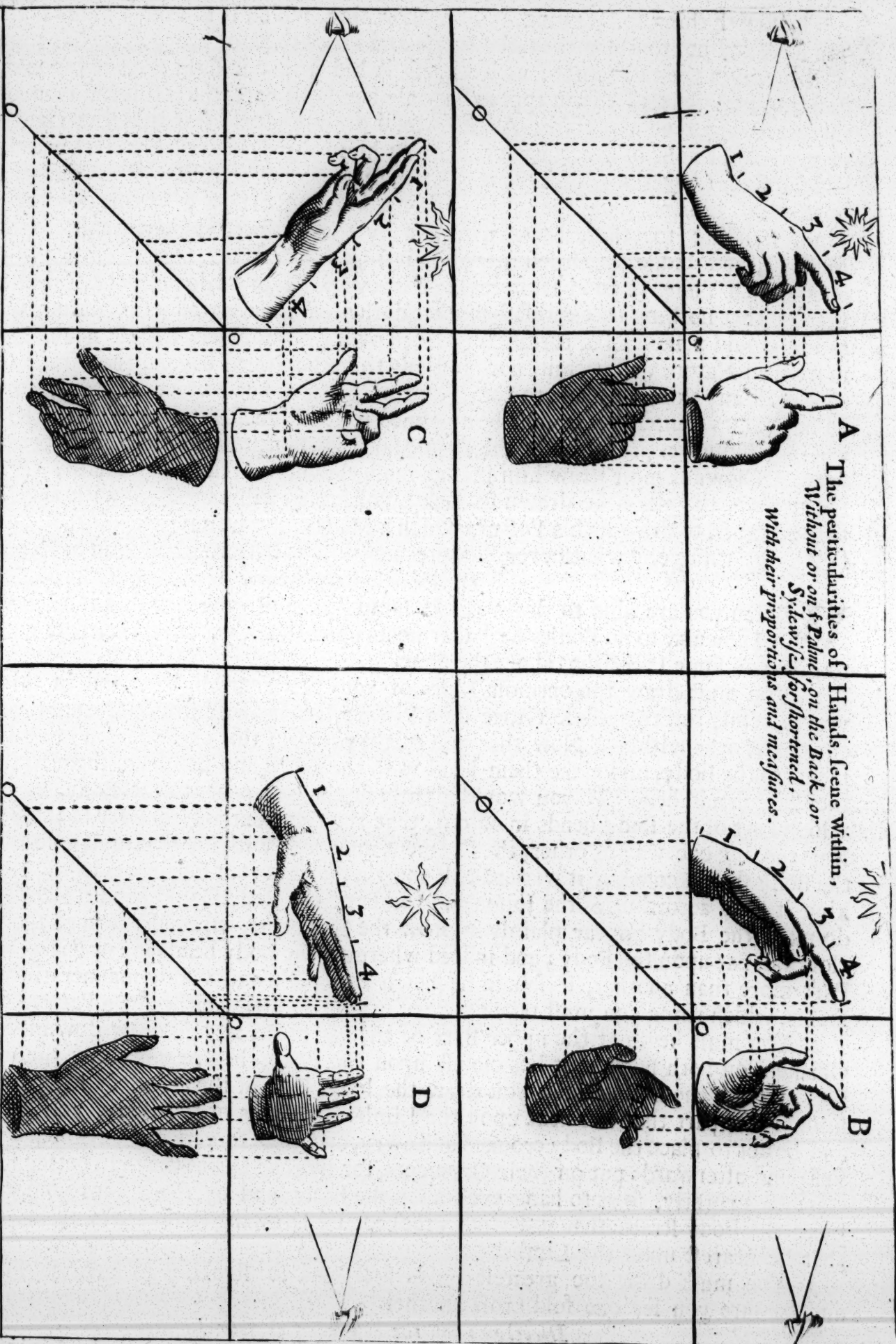
Now I have given you Directions for the Drawing of the Body, I would in the next place give some Instructions, whereby you might have some Judgment in a good Draught.

Of Perspective Proportion.

Perspective Proportion differeth much from the former, for according to the distance of the Eye from a thing, it judgeth what proportion it hath, as if one part of the Body come nearer to the Eye than the other, it is made so much bigger than the other Part of the Body which turns away from the Eye, as if one Leg stand behind another, the foremost Leg that comes first to the Eye must be made somewhat bigger and longer than the other, because the Eye judgeth so of it, and so it is for any other Part of the Body, the Proportion must be lessened according to the Distance that is from the Eye.

The second Thing in good Draughts is graceful Posture, and proper Action, that is, that the true natural Motion of every thing be exprest in the Life and Spirit of it, that is, to quicken the Life by Art; as in a King, to exprest the greatest Majesty, by putting him in such a graceful Posture as may move the Spectators with Reverence to behold him; and so to make a Soldier, to draw him in such a Posture as may betoken the greatest Courage, Boldness, and Valour; and so to make a Clown, in the most detestable and clownish Posture; and so for every Thing, that the inward Affection and Disposition of the Mind be most lively exprest in the outward Action and Gesture of the Body. Now that you might attain to the Skill herein, I would counsel you diligently to observe the Work of Famous Masters, who do use to delight themselves in seeing those that fight at Cuffs, to observe the Eyes of Privy-Murtherers, the Courage of Wrestlers, the Actions of Stage-Players, the enticing Allurements of Courtesans, and those who are led to Execution, to mark the contracting of their Brows, the Motions of their Eyes, and the Carriage of their whole Body, to the end they might exprest them to the Life in their Drawings and Works: As to exprest Joy, the Forehead is serene, the Eye-brow without Motion, and raised in the middle, the Eye moderately open and smiling, the Eye-ball brisk and shining, the Nostrils a little open, the Corners of the Mouth will be a little raised, the Complexion lively, and the Cheeks and Lips ruddy. To exprest Laughter, the Eye-brow is raised about the middle, and drawn down next the Nose, the Eyes almost shut, the Mouth will appear open, and shew the Teeth, the Corners of the Mouth being drawn back and raised up, will make a Wrinkle in the Cheeks, which will appear puffed up, and almost hiding the Eyes, the Face will be red, and the Nostrils open. Scorn is exprest by the Eye-brows frowning, and drawn down by the side of the Nose, the other End thereof very much raised, the Eye very open, and the Eye-ball in the middle, the Nostrils drawn upwards, the Mouth shut, the Corner a little drawn down, and the Under-lip thrust out beyond the Upper. Sorrow is set forth by the Eye-brows being more raised in the middle of the Forehead than next the Temples; he that hath this Passion, hath his Eye-balls dull, the White of the Eye inclining to yellow, the Eye-lids hanging down, and something swell'd, the Nostrils drawing downward, the Mouth open, and the Corners of it drawn down, the Head appears careless, hanging on one of the Shoulders, the Complexion of a kind of Lead Colour, and the Lips pale and wan. Weeping is exprest'd by the Eye-brows hanging down in the middle of the Forehead, the Eyes almost closed, very wet and cast down towards the Cheeks, the Nostrils swell'd up, and all the Muscles and Veins of the Forehead apparent, the Mouth will be half open

A The peticularities of Hands, scene Within,
Without or on the Palm, or
Side-wise, forshorrend,
With their proportions and measures.



To forshorrend the Hands, you must draw the perpendicular lines from the Hands, scene Above, or a side marked with their proportions and measures 1, 2, 3, 4, upon which the drawing would be assisted, draw the Diagonal marked at the end with Q, and then carry the reflection of them levelly from the intersections of those perpendicular lines in the Diagonal, you shall have the place of the forshorrend Hands, thereby to get the shadow, from which shadow you may perpendicularly raise perpendicular lines, until they may meet or intersect level lines drawn also from the first hand scene above, so will the intersections of the said level lines and raised perpendiculars give the forshorrend Hands A, B, C, D, E. Even as the Eye would see the Side-wise or sloping Hand, so shall the workman see the Hand forshorrend by means of the said shadow.

open, the Corners hanging down, and making Wrinkles in the Cheeks, the Under-lip will appear turned down, and pouting out, all the Face will appear drawn together and wrinkled, the Colour very red, especially about the Eyebrows, Eyes, Nose and Cheeks.

The third thing in good Draughts, is Looseness; that is, that the Body be not made stiff in any Part, but that every Joint may have its proper natural bending, so as it may with greatest Life express your Intention, that the Figure may not seem lame, and the Joints stiff, as if they were not pliable, or capable of Bending, but every Joint and Limb may have its proper and natural Motion, according as it may best suit with, and become the Posture in which the Figure is set.

The fourth thing in Drawing, is Fore-shortning, which is to take Things as they appear to our Eye, and not to draw the full Length and Proportion of every Part, but to make it shorter, by reason the full Length and Bigness is hid from our sight: As if I would draw a Ship standing foreright, there can appear but only her Fore-part, the rest is hid from our Sight, and therefore cannot be express'd: As if I would draw a Horse standing fore-right, looking full in my Face, I must of Necessity fore-shorten him behind, because his Sides and Flanks appear not unto me; wherefore observe this Rule, that you ought rather to imitate the visible Proportion of Things, than the proper and natural Proportion of them, for the Eye and the Understanding together, being directed by the Perspective Art, ought to be the Guide, Measure, and Judge of Drawing and Painting.

The fifth Thing in good Drawing is, that every Thing be done by the Guidance of Nature; that is, that nothing be express'd but what doth accord and agree with Nature in every Point; as if I would make a Man turning his Head over his Shoulder, I must not make him to turn more than Nature will permit, nor must any thing be forced beyond the Limits of Nature, neither must any thing be made to come short of Nature, but Nature, tho' it is not to be strained beyond its Center, yet it must be quickned to the highest Pitch of it; as if I would express a King, I must express him in the most Majestick Posture that I can invent; and if I would draw a Clown, I must draw him in the most clownish Action that can be, yet must neither the one nor the other, be drawn in such a Posture as will not agree with the Motion of Nature; that is, to draw such a Posture which a Man cannot imitate with his Natural Body; and so for any thing else whatsoever, Nature must be the Pattern of all kind of Draughts.

Of Drawing Garments.

WHen you are able to draw naked Draughts well, you will find it a Matter of no great Difficulty to do Bodies with Garments upon them, yet nevertheless it will not be amiss to give you some Directions about the same.

1. You must draw the outmost Lines of your Garments lightly, and in this you must be very careful, for the whole Grace of a Picture lies in the outmost Draught, and not in the curious Works within: Now that you might perform this exactly, you must suit your Garments to the Body, and make them bend with the Body, and not make them strait there where the Body should bend; if you would rightly fit the Garments to the Body, you must observe which Part of the Body bends in or out, that the Garment may answer to the Body, upon the least turning one way or other, the Garment may turn with it; you must also observe, where the Body should come, if it were naked, and there draw your Garments in the right Place, making it bend according as the Joints and Limbs of the Body should bend: Excellent Workmen do make the Body appear plainly thorow the Garments, especially where the Garments lie close and flat upon the Body; and indeed wherever the Body bends in, or sticks out in any one Part more than another, it should be shewn in a plain and visible manner through the Garments, which thing you must take notice of in your Drawing either by a Pattern or by the Life.

2. You must begin at the upper Part of the Garment, and so draw down that Part of the Garment on both sides, that lies closest upon the Body, before you draw the loose Part that flies off from the Body, for if you draw the loose Part of the Garment first, before you have finish'd that part that lies next upon the Limbs and Parts of the Body, you will be soon out, and be apt to place the Body crooked and awry, and therefore many Workmen draw the naked first, and afterwards put on their Garments, for by that means they can better see to place the Garments rightly, so as to hang even upon the Body, and by this means you will be sure to place the Body strait, that it be not crooked, by Drawing those Parts of the Garment first that lie nearest upon the Limbs.

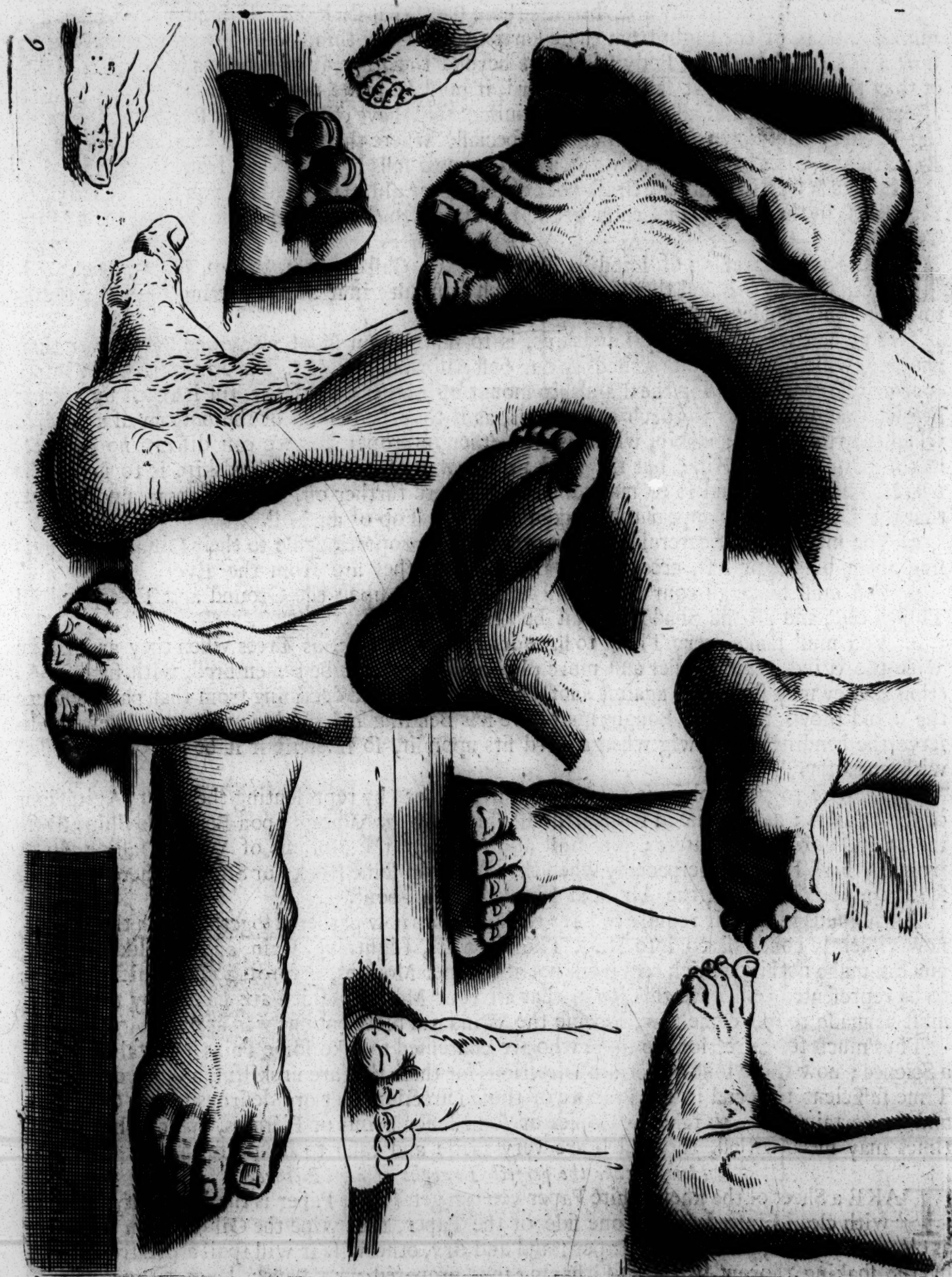
3. You must draw the greatest Folds first, and so stroke your greater Folds into less, and be sure you let one fold cross another.

Directions for the bestowing of your Lights.

LET all your Lights be placed one way in the whole Work; as if the Light falls sideways on your Picture, you must make the other side, which is farthest from the Sight, darkest, and so let your Lights be placed altogether on the one side, and not confused, to make both Sides alike lightned, as if it stood in the midst of many Lights, for the Body cannot otherwise be lightned equal in all Places.

1. Because the Light doth not with all its Brightness illuminate any more than that Part that is directly opposite unto it.

2. The second Reason is taken from the Nature of our Eye, for the first part of the Body coming unto the Eye with a bigger Angle, is seen more distinctly, but the second Part being



further off, comes to the Eye in a lesser Angle, and being lesser lightned, is not so plainly seen as the first: By this Rule, if you are to draw two or three Men standing together, one behind another, tho' all of them receive equally the Light, yet the Second being further from the Eye, must be made darker, and the Third more dark.

3. That Part of the Body must be made lightest, which hath the Light most directly opposite to it; as if the Light be placed above the Head, then the Top of the Head must be made lightest, the Shoulders next lightest, and so it must lose by degrees.

4. That Part of the Body that stands farthest out, must be made the lightest, because it comes nearer to the Light, and the Light loseth so much of its Brightness, by how much any Part of the Body bends inward, because those Parts that stick out, do hinder the Lustre and full Brightness of the Light from those Parts that fall any thing more inward; therefore by how much one Part of the Body sticks out beyond the other, it must be made so much lighter than the other; or if it fall more inward, it must be made more dark.

Sattins and Silks, and all other bright shining Stuffs, have certain bright Reflections, exceeding Light, with sudden bright Glances, especially where the Light falls brightest, and so the Reflections are less bright, by how much the Garment falls more inward from the Light.

The like is seen in Armour, Brass-pots, or any other glittering Mettals, you shall see a sudden Brightness in the middle, or Center of the Light, which discovers the shining Nature of such Things.

Of Landskips.

Landskip is expressing of Land by Hills, Woods, Castles, Seas, Vallies, Ruins, Rocks, Cities, Towns, &c. and there is not so much Difficulty in it as in Drawing Figures; therefore take only these Rules for it.

1. The best way of making Landskips, is to make them shoot away one Part lower than another, which hath been practised by our best Workmen of late, but others have run into a contrary Error, by making the Landskip mount up higher and higher, till it reach up a great height, that it appears to touch the Clouds, as if they had stood at the bottom of a Steeple when they took the Landskip, which is altogether improper, for we can discern no Prospect at the bottom of an Hill; but the most proper way of making a Landskip, is to make the nearest Hill highest, and so to make the rest that are further off, to shoot away under that, that the Landskip may appear to be taken from the Top of an Hill.

2. You must be very careful to lessen every thing proportionable to their Distance, expressing them bigger or less, according to the Distance they are from the Eye.

3. You must make all your Lights fall one way, both upon the Ground and Trees, and all Things else, and all the Shadows must be cast one way.

4. You must make every Thing to have its proper Motion, as Trees when they are shaken with the Wind, their smaller and more pliable Boughs must be remembred, with such an Action as they may strike one against another, by yeilding and declining from that part, whence the Wind Blows, the stiffer Boughs must have less Bending and Motion; you must likewise observe the bending of a Twig when a Bird sits upon it, so likewise if it be forced or pressed with any other Thing.

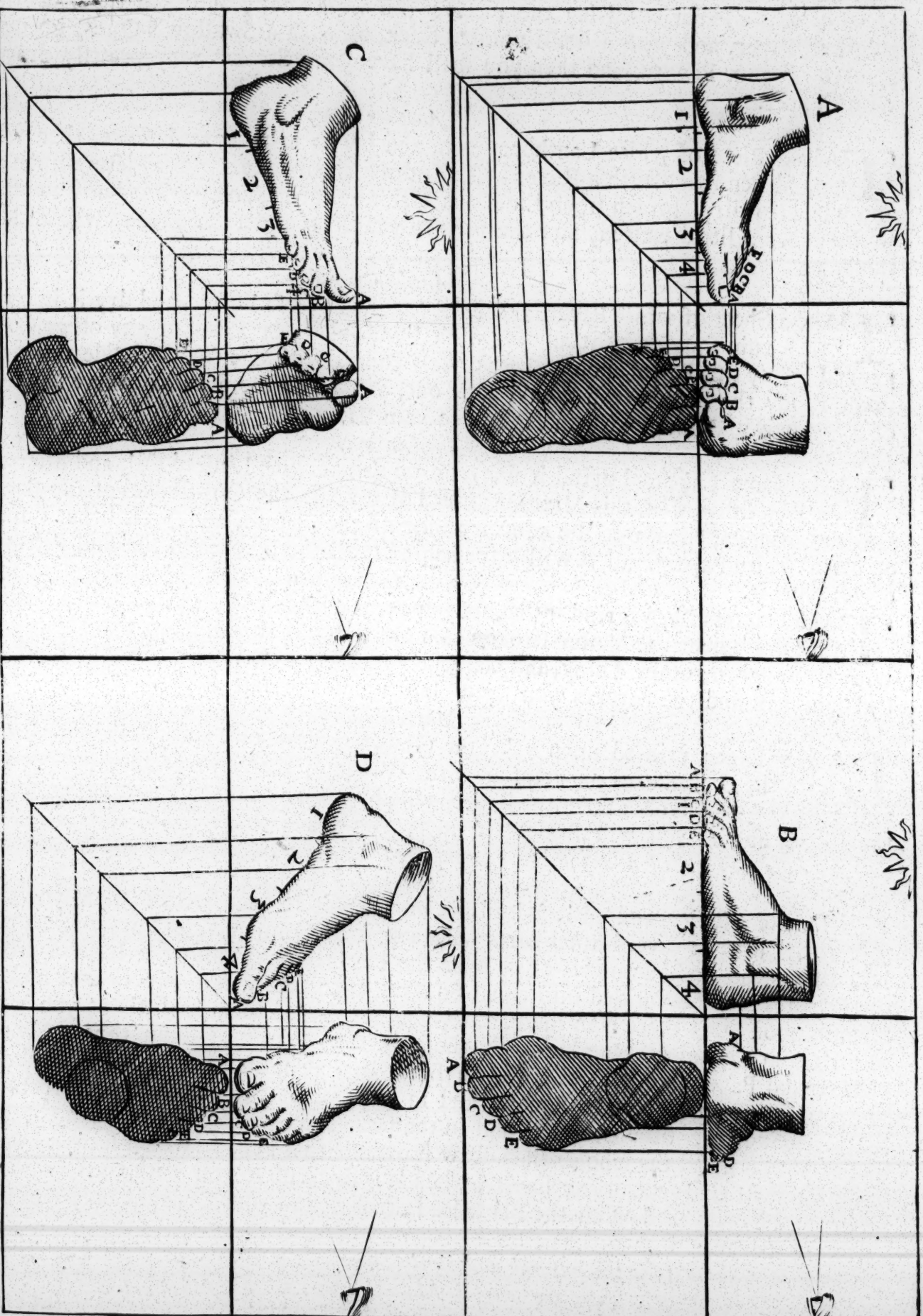
So likewise you must observe the Motions of the Sea, by representing the divers Agitations of the Waters; as likewise in Rivers, the Flashings of the Waters upon Boats and Ships floating up and down the Waters; you must also represent the Motions of Waters falling down from an high Place, but especially when they fall upon some Rocks or Stones, where you shall see them spirting up in the Air, and sprinkling all about.

Also Clouds in the Air require to have their Motions now gathered together with the Winds, now violently condensated into Hail, Thunderbolts, Lightning, Rain, and such like; finally, you can make nothing which requireth not its proper Motions, according unto which it ought to be represented; observe this Rule, that all your Motions which are caused by the Wind, must be made to move one way, because the Wind can blow but one way at once.

Thus much for Directions to those who are contented to take some Pains to attain so noble a Science; now there follows certain Directions for those that are unskilful, and have not spare Time sufficient to spend in the Practice of those Directions, yet are desirous, upon Occasions, and for certain Ends, to take the Copies of some lesser Prints or Pictures, which they oftentimes may meet withal, the which are very facile and easie to be performed.

How to take the perfect Draught of any Picture.

TAKE a Sheet of the finest white Paper you can get, Venice Paper is the best, wet it all over with clean Linseed Oil on one side of the Paper, then wipe the Oil off from the Paper as clean as you can, then let the Paper stand and dry, otherwise it will spoil a printed Picture, by the soaking thorow of the Oil; having thus prepared your Paper, lay it on any printed or painted Picture, and you may see perfectly thorow, and so with a Black-lead Pen you may draw it over with ease; after you have thus drawn the Picture on the Oiled Paper, put it upon a Sheet of clean white Paper, and with a little stick pointed, or which is better, with a Feather taken out of a Swallow's Wing, draw over your Strokes which you drew upon the Oiled Paper, and so you shall have the same very prettily, and neatly, and exactly drawn upon the white Paper, which you may set out with Colours at your Pleasure.



To foreshorten feet, scene forwards, you must make the foot and w^h the proportions and measure, scene on the inside of the foot marked A, and from those proportions and measures marked 1, 2, 3, 4, draw down perpendiculars until they cut the Diagonal, and come twice into Parallel, to make the Shalowed foot under the place of the foreshortened foot, and from the said shadowed you must raise perpendiculars into the place of the said foot to be shadowed, which there meeting with the said lines that proceed from the first foot by intersections of them there, smeth us the said foot Geometrically foreshortened as appear here represented, wherein the toes of the feet are marked A, B, C, D, E, and the heel is to be observed for the foot scene by the heel marked B, and also for the foot marked with C, scene on the forepart, and lastly in the foot for the foot marked D, w^h are foreshortened by the same rules as the former.

Another way.

HAVING drawn the Picture, take the Oiled Paper, and put it upon a Sheet of clean white Paper, and prick over the Drawing with a Pen, then from the clean Sheet that was pricked, pounce it upon another, that it take some Small-coal, powder it fine, and wrap it in a Piece of some fine Linen, and bind it up therein loosely, and clap it lightly over all the pricked Line by little and little, and afterwards draw it over again by little and little, and afterwards draw it over again with a Pen or Pensil, or what you please.

Another way.

TAKE a Sheet of fine white Paper, and rub it all over on one side with Black-lead, or else with Vermillion, tempered with a little fresh Butter, then lay the coloured side upon a Sheet of white Paper, then lay the Picture you would copy out upon the other side of the coloured Paper, and with a small pointed Stick, or with a Swallow's-Quill, go over all the Strokes of your Picture, and then you shall have your Strokes very prettily drawn on the white Paper.

Another way.

TAKE a Piece of white Lanthorn-horn, and lay it upon your Picture, then with a hard nip'd Pen made with a Raven's-Quill, draw the Stroke of your Picture upon the Horn, and when it is dry, breath upon the Horn twice or thrice, and press it hard upon a Piece of white Paper a little wetted, and the Picture you drew upon the Horn, will stick fast upon the Paper.

Another way.

TAKE a Sheet of white Paper, rub it all over with fresh Butter, and dry it in by the Fire; then rub one side of it all over with Lamb-black or Lake, or any other Colour finely ground: Lay this Paper upon a Sheet of fair Paper, with the coloured side downwards, and upon it lay the Picture you would copy out, and trace the Strokes over with the Feather of a Swallow's Wing, and you shall have your Desire.

Another way.

TAKE some Lake and grind it fine, and temper it with Linseed Oil, and afterwards with a Pen, draw with this Mixture instead of Ink, all the Out-strokes of any Paper Picture, also the Muscles, then wet the contrary Side of the Picture, and press it hard upon a Sheet of clean white Paper, and it will leave behind it all the Strokes of the said Picture that you drew over it.

Another way.

TAKE Printers Black, grind it fine, and temper it with fair Water, and with a Pen dipt therein, draw over the Master-strokes, and Out-lines of the Muscles, wet then a fair Paper with a Sponge, or other Thing, and clap the Paper upon it, pressing it very hard thereupon, and you shall find the Strokes you drew left upon the fair Paper.

Another Way.

LA Y a Paper printed upon a bright Glass-Window or Paper-Window that is Oiled, with the Back-side of the Print upon the Window, then lay a clean paper upon the Print, and draw the Out-strokes upon the Paper, which you may visibly see, it being set up against the Light, and if you will shadow it finer, you may.

An easie way to lessen any Picture; that is, to draw a Picture from another, in a lesser Compass.

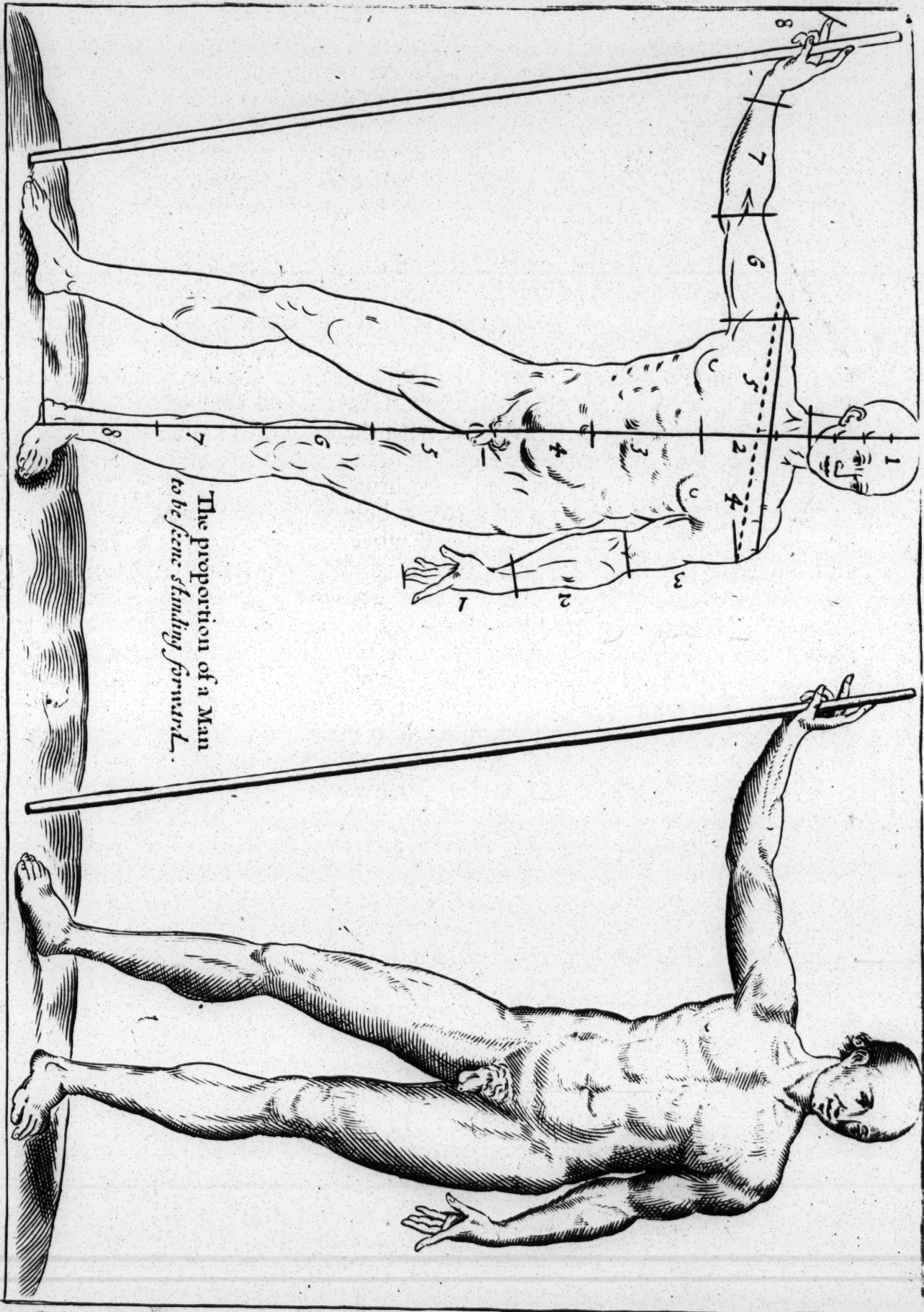
FIRST take a Ruler, and a Black-lead Plummet made an even Square; now you must divide the Square in divers equal parts with a pair of Compasses, and draw Lines with a Ruler, Black-lead and Plummet, quite over the Picture; make also the Lines a-cross, so that the Pictures may be divided into equal Squares, then take a fair Paper, and make as many Squares upon it as there is in the Picture, you may make them as little as you will, but be sure they are equal in Number with those in the Picture; having thus drawn over the Picture and Paper into Squares; Take a Black-lead Pen, and draw the Picture by little and little, passing from Square to Square, and in what part of the Square your Picture lies, in that same Square put the Drawing, and in the same place of the Square upon the Paper, until you have finished the whole, then draw it over with a Pen, in which second Drawing of it over, you may easily mend any Fault; when it is dry, rub it over with the Crumb of White-bread, and it will take off all the Black-lead Strokes, and your Draught only will remain fair upon the Paper.

An easie way to take the natural and lively Shape of the Leaf of any Herb or Tree, which Thing passeth the Art of Man to imitate with Pen or Pensil.

FIRST take the Leaf that you would have, and gently bruise the Ribs and Veins on the Back-side of it, afterwards wet that side with Linseed Oil, and then press it hard upon a piece of clean white Paper, and so you shall have the perfect Figure of the said Leaf, with every Vein thereof so exactly express'd, as being lively coloured, it shall seem to be the truly natural.

Directions for Engraving Pictures on Copper.

HAVING given you full Direction about Drawing, which is the Ground-work of all Arts; I shall now give you some Instructions about Engraving; by which, with your own Practice and Ingenuity, you may arrive to a great proficiency in that Noble Art, and therefore you must get these Instruments, viz. a Graver, a Cushion, an Oil-stone, and a Burnisher, and some smooth Charcoals, which are not knotty, and a piece of Castor or Bevor; a Graver of the middle Size will do best. The Oil-stone is to whet your Graver upon; both



The proportion of a Man
to be scene standing forward.

In this figure is to be observed that from the top of the head to the sole of the feet is 8 measures of the head, and the head 4 lengths of the nose, the which measures are divided upon a perpendicular line with 1. the head figured with 1. the shoulder 2. the 3^d to the navel 3. the 4th to the privities 4. the 5th to the middle of the thigh 5. the 6th to the lower part of the knee 6. the 7th to the small of the leg 7. the eight reaching to the heels 8. the side of the feet 8. Likewise the same 8. measures are to be observed from the end of the fingers of the right hand to the end of the left hand fingers the breadth of the shoulders containeth 2 measures of the head, & the breadth of the hips 2 measures of the face, as appeareth in the enshadowed figure.

which you may have at several Shops in *Foster-Lane* in *Cheapside*. To whet your Graver, you must put a few Drops of Olive-Oil upon the Stone, and then lay that side of the Graver, which you design shall cut the Copper, flat upon the Stone, and whet it very flat and even, and remember to carry your Hand with an equal Strength, placing your Fore-finger upon the Graver; then turn the next side of your Graver, as before, and whet it, that you may make it sharp for about an Inch; and lastly, turning uppermost that side that you have so whet; whet it very flat and sloping, in the Form of a Lozenge, with an even and steddly Hand, making towards the End of it a very sharp Edge. The Cushion is a Leather-bag, sewed round in the Fashion of a good large Turnip, filled with Sand, about six Inches over, and about two Inches high, to lay your Copper-plate upon, that you may turn it with more ease, which must be with your Left-Hand. The Burnisher is to rub out the Scratches which may be made by the slipping of your Graver beyond the Stroke you intended to make, or to take out any Stroke that you do amiss. The Charcoal is to be scraped all the outside off, and so to be dipt in Water, to take off the Barb or Harshness of your Work, without which you can never take off a good Print. A Piece of Bevor or Castor, is to be rouled up hard, and made like a Rubber, about an Inch and half over, and about two Inches high, which is to be dipt in Oil, and to rub your Plate withal, by which you may better discover your Work as you do it.

In handling the Graver, you must cut off that Part of the Knob of the Handle of the Graver, which is upon the same Line with the Edge of the Graver, and so making that side next the Plate flat, that it may be no Hindrance to you in working a large Plate; place the Knob, which is at the End of the Handle of the Graver, in the Hollow of your Hand, and having extended your Fore-finger towards the Point of your Graver, that is, upon the Top of it: Place your Thumb on the outside of your Graver, and your other Finger on the other side, so as you may guide your Graver flat with the Plate. Be sure to hold the Plate firm upon the Cushion, moving your Hand, leaning lightly where the Strokes should be fine, and harder where the Strokes should be deeper or broader.

In making circular or crooked Strokes, hold your Hand and Graver stedfast, your Arm and Elbow resting upon the Table, and move the Plate against the Graver, or else it is difficult to make those Strokes, with that Exactness and Art that is required. Carry your Hand with such a Slight, that you may end your Strokes finely, as you begin them. Beware your Strokes be not too wide nor too close. To help you in it, imitate some Prints of *Muller* or *Sanredam*, or *Goltius*, or *Bloemart*; choice of which you may have at the Print-shop, next the *Exchange-stairs* in *Cornhill*, which Prints will be very useful in your beginning to practise. To cleanse the Ink out of your Plate, after you have proved it, heat it pretty warm, and then put strong Soap-Lees, and let it a little boil upon the Plate, and then wash it off with fair Water, and afterwards rub it over with an Oily Rag to keep it from Rusting.

To lay the Ground, and to scrape a Plate for a Metzo Tincto Picture.

TAKE a piece of Copper well polished, and with a Black-lead pensil, rule it from Top to Bottom, and from Side to Side, and then Corner to Corner cross-ways, leaving an Inch between every Line, and then with an Instrument made of Steel, in the Fashion of a Cheese-Knife (the Cheesemongers cut Cheese withal) about an Inch and half, or two Inches broad, which must be whet smooth on one side, and finely engraved with close and even Strokes on the other, which maketh Teeth to the Tool: With this you must with a steddly Hand cut the Copper, cutting Stroke by Stroke, and as near one another as ever you can, twenty or thirty Times over, first cutting it from Side to Side, and then from Top to Bottom, and then cross-ways, from Corner to Corner; and then begin again, till taking a proof from it, it prints very black, and then with a piece of Steel made very sharp, in the Fashion of a Chirurgeon's Lance he bleeds withal, after you have drawn the Out-skirts of your Picture on the Copper, you must scrape it away where it should be light, and in the highest places of all burnish it, and then print off a proof of it, and so you will see where it is not scraped enough.

Of Washing Maps or Prints.

Washing Pictures is nothing else but the setting them out with Colours, and for the effecting thereof, you must be provided with store of Pencils, some smaller than another, Allum Water, Gum Water, Water made of Soap Ashes, Size, Varnish, and Store of good Colours well prepared.

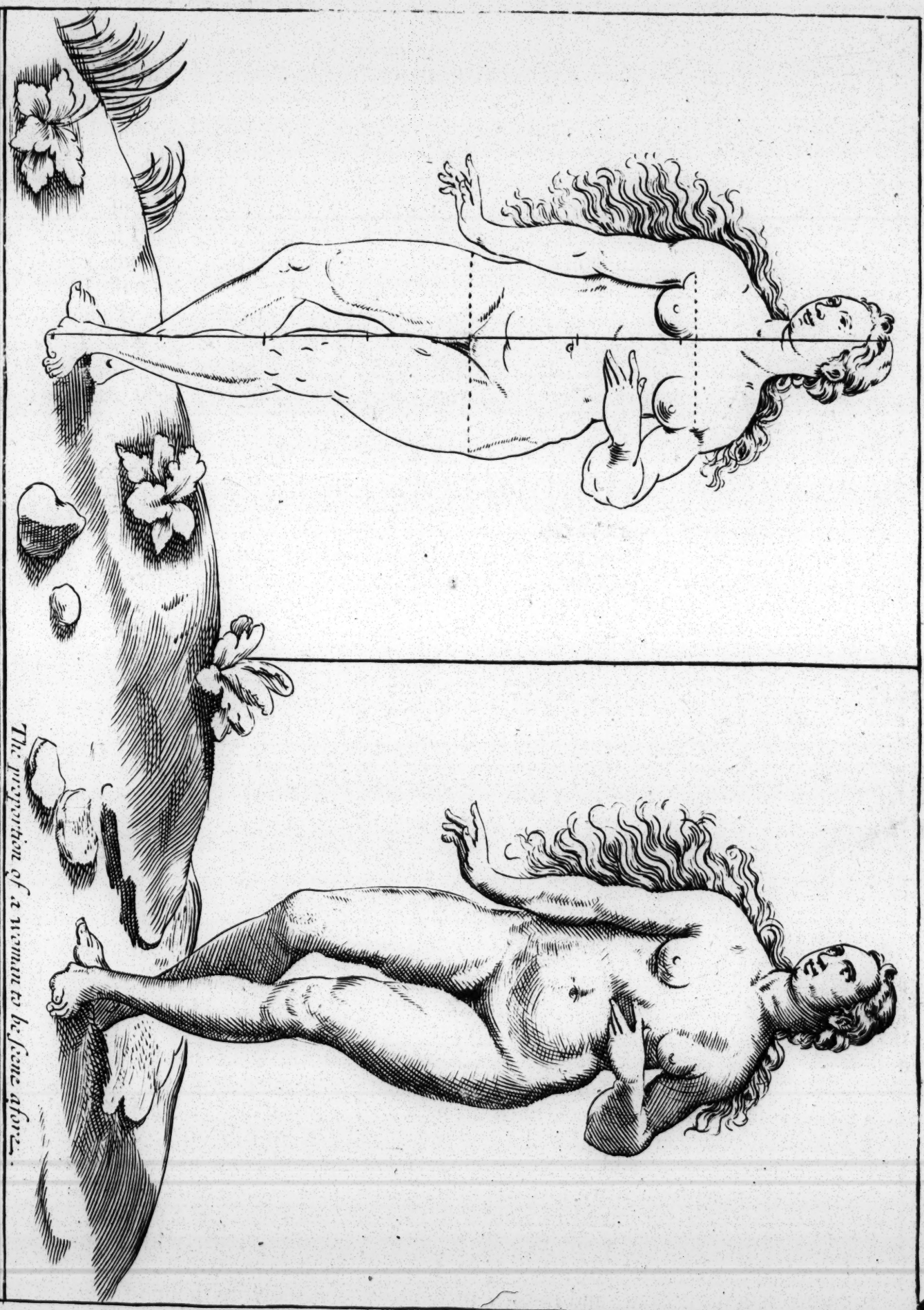
How to Allum-Water, and the Use of it.

TAKE a Quart of fair Water, and boil it in a quarter of a pound of Allum, seeth it until the Allum be dissolved, then let it stand a Day, and so make use of it.

With this Water you must wet over your Pictures that you intend to Colour, for it will keep the Colours from sinking into the paper, also it will add a Lustre unto the Colours, and make them shew fairer, and it will also make them continue the longer without fading; you must let the paper dry of it self after you have once wetted it, before you either lay on your Colours, or before you wet it again, for some Paper will need to be wet four or five times.

If you intend to varnish your Pictures after you have coloured them, you must first size them, that is, rub them over with white Starch boild, with a Brush, instead of doing them with Allum Water; but be sure you size it in every place, or else the Varnish will sink thorow: Note, if your Varnish be too thick, you must put into it so much Turpentine Oil as will make it thinner.

How



The proportion of a woman to be scene afore.

The Proportion & measure of a woman to be scene afore, is like the mans, excepting that & measure of the breadth between the shoulders of the woman continues but 2 lengths of the face as appears by & prickd line adthwart the breasts and from & Hipses to the Buttocks. 2 lengths of the head marked with an other crose prickd line, which maketh the difference between the man & & woman and you must make the Armes Thighes & Leggs fatter and plumper then & mans, even to & wrists & ankles. Also you must not make & muscles as of & man.

How to make Gum Water.

TAKE clean Water a Pint, and put into it three Ounces of the clearest and whitest Gum Araback, and let it stand until the Gum be dissolved, and so mix all your Colours with it; if the Gum Water be very thick, it will make the Colours shine, but then your Colours will not work so easily; therefore the best is, that the Water be not made too thick nor too thin.

How to make Lime Water.

TAKE unslak'd Lime, and cover it with Water an Inch thick, let it stand so one Night, in the Morning pour off the clear Water, and reserve it in a clean Thing for use; with this Water you must temper Sap-green, when you would have a Blue Colour of it.

How to make Water of Soap Ashes.

STEEP Soap Ashes a Night in Rain Water, in the Morning pour off the clearest; this Water is to temper your Brazil withal.

How to make Size.

TAKE a quantity of Glue, and let it steep a Night in Water, and make it the readier to melt in the Morning, then set it on a Coal of Fire to melt, which done, to try whether it be neither too stiff nor too weak, for the meanest is best, take a Spoonful thereof and set in the Air to cool, or fill a Musle-shell with it, and let it swim in cold Water, to cool the sooner; if it be too stiff when it is cold, put more Water to it; if too weak, then put more Glue into it, and when you would use it, make it luke-warm, and so use it.

This is to wet your Cloaths in, if you intend to paste your Maps or Pictures upon Cloth, you may take White Starch boil'd, and wet your Sheet, and wring it out, and so strain it upon a Frame, or nail it, stretched upon a Wall, or Board, and so paste your Maps, or Pictures thereon.

The Names of the Colours pertaining to Washing.

BLUES, Blue-Bise, Indico, Blue Verditer. Reds, Vermillion, Lake, Red Lead. Whites, Ceruse, White-Lead pick'd. Blacks, Printers Black, Ivory burnt. Greens, Verdigrice, Verditer-Green, Sap-Green, Copper-Green. Yellows, Yellow-Berries, Saffron, Light Masticot. Browns, Spanish Brown, Umber, or Hair-Colour.

Of the tempering your Colours.

SOME Colours must be ground, and some wash'd; such Colours as are to be ground, you must first grind very fine, in fair Water, and so let them stand and dry, and afterwards grind them again in Gum Water.

Those that are to be Wash'd must be thus used.

TAKE a quantity of the Colour you would have wash'd, and put it into a Shell, or Earthen Dish, then cover it all over with pure fair Water, and so stir it up and down for a while together with your Hand, or a wooden Spoon, till the Water be all coloured, then let the Colour sink a little to the bottom, and before it be quite settled, pour out the Top into another Dish, and so fling the bottom away, and let the other stand till it be quite settled, and then pour off the Water, and mix it with Gum Water, and so use it.

What Colours must be Ground, what Wash'd, and what Steep'd.

GROUND, Indico, Lake, Ceruse, White Lead, Spanish Brown, Umber, Printers Black, Ivory burnt. Wash'd, Blue Bise, Blue Verditer, Green Verditer, Red Lead, Light Masticot; these must be steep'd only till the Water be sufficiently coloured. Steep'd, Verdigrice in Vinegar, Sap-green in Vinegar, Yellow Berries in Allum Water, Saffron in fair Water, Copper-green is made of Copper.

How to make a Copper Green.

TAKE Copper Plates, or any Shreds of Copper, and put distilled Vinegar to them, set them in a warm place, until the Vinegar become Blue, then pour that Vinegar into another Pot well leaded, and pour more Vinegar upon the Copper Plates again, letting that also stand until it be of a Blue Colour, then pour it into the former Liquor; this you may do so often until you have Liquor enough, then let that Liquor stand in the Sun, or upon a slow Fire, till it be thick enough, and it will be an excellent Green.

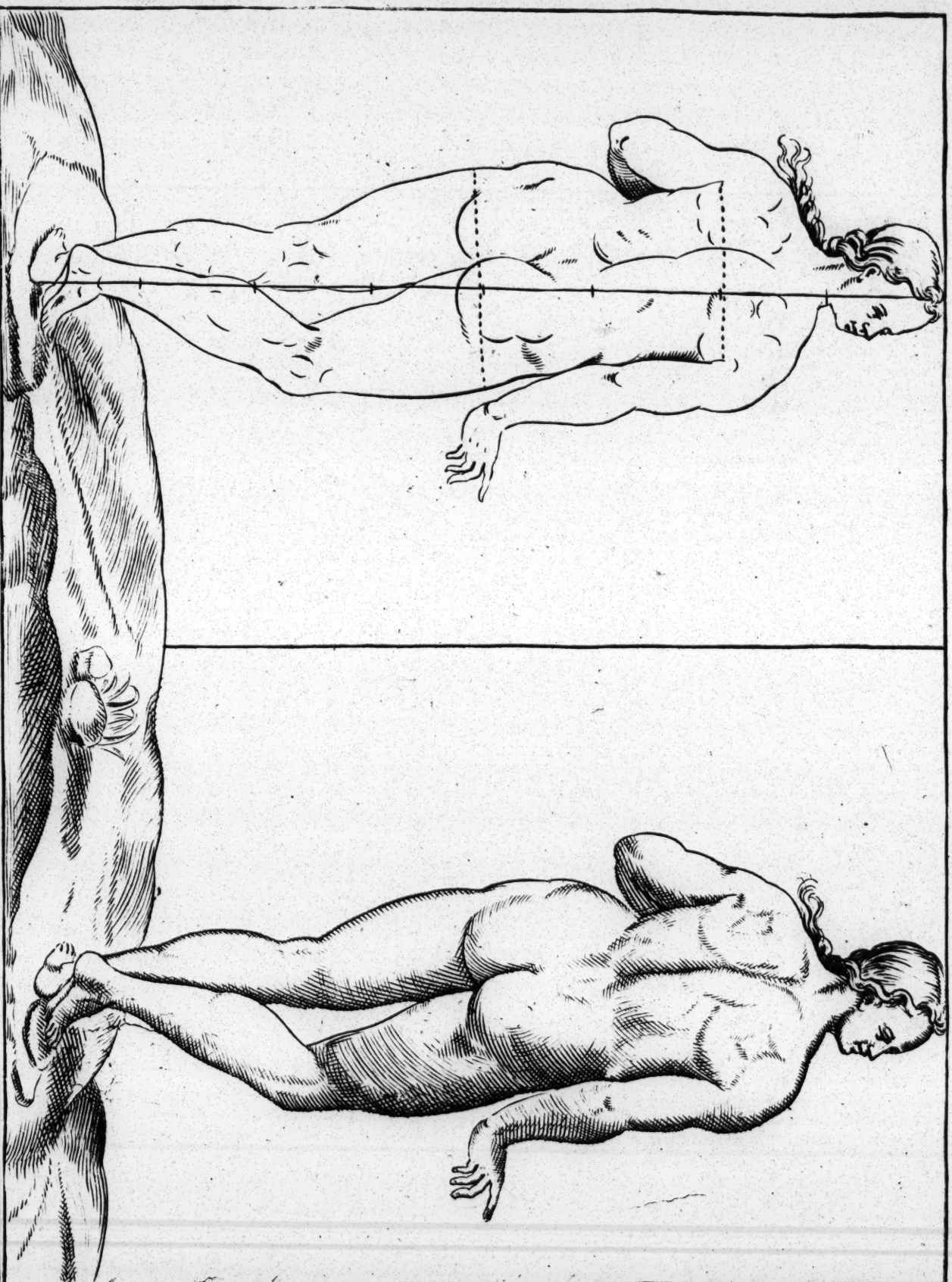
The Use and Nature of every particular Colour.

1. **B**LU E Bise is the most excellent Blue next to Ultramarine, which is too good to wash withal, and therefore I leave it out here, and put in Blue Bise, which will very well serve in the stead of it, and indeed you may leave out both, and use Smalt in the stead of them, but that it will not work so well as Bise; now Bise is too good to use upon all Occasions, but only when you intend to bestow some Cost and Pains upon a Piece, otherwise you may use no other Blue in your Work, than Blue Verditer, with which you may make a pretty good Shift, without any other Blue, I mean in ordinary Work.

2. Indico is a dark Blue, and is used principally to shadow with upon your other Blue; Indico and Yellow Berries mixed together, make a dark Green to shadow other Greens with in the darkest Places.

3. Blue Verditer is a very bright pleasant Blue, and the easiest to work with in Water, it is somewhat inclined to Green, and being mixed with yellow Berries, it makes a good Green; this Blue is most used.

4. Verdigrice is a good Green, but subject to decay; when it is dry upon the Paper, it will be of a lighter Colour than it was when you laid it first on, therefore to preserve it from that fault, put some Sap-green amongst it to dissolve it, and it will make it keep its Colour;



The proportion of a woman standing back; The same manner as you make the former figure, you must use in this backward of the woman, without altering any thing of the measure, except in observing the muscles, which are marked behind must be made sweeter & smoother than the mans, as appears in this figure.

this Colour is of a poysonous Nature, and therefore you must be careful how you use it, that it come not near your Mouth: There is distilled Verdigrice to be bought at the Colour-Shops, that is a far better Green than the other, but it is somewhat dear, and the other will serve instead of it.

5. Verditer-Green is a light Green, seldom used in any thing but in Colouring of Land-skips, those places that should shew afar off, and it is good for such a purpose, because it is somewhat inclining to a Blue, but you may make a shift to do any thing well enough without it, for a little Blue Verditer, mixt with Copper-green, and a little White, will make just such another Colour.

6. Sap-Green is a dark dirty Green, and never used but to shadow other Greens in the darkest places, or else to lay upon some dark Ground behind a Picture, which requires to be coloured with a dark Green, but you may make a shift well enough without this Green, for Indico and Yellow Berries make just such another Colour.

7. Copper-Green is an excellent transparent Green, of a shining Nature, if it be thickned in the Sun, or upon a softly Fire, and it is most used of any Green in Washing of Prints, especially in colouring of the Grass, Ground, or Trees, for it is a most perfect Grass-Green.

8. Vermillion, it is the perfectest Scarlet Colour, you need not grind it, no nor wash it, it is fine enough of it self, only temper it with your Finger in a Gallipot, or Oyfter Shell, with Gum Water, and it will be ready for your Use; if you put a little Yellow Berries amongst it, it will make it the brighter Colour; this is principally used for Garments.

9. Lake, it is an excellent Crimfon Colour, with it you may shadow Vermillion, or your Yellow Garments in the darkest places; with it you may make a Sky Colour, being mixed only with White; with it you may make Flesh Colour, sometimes mixed together with the White and a little Red-Lead; it is of an excellent Colour it self to colour Garments, or the like. *Indian* Lake is the best Lake, but too good to be used to wash Prints with, unless you intend to bestow great Curiosity upon your Work; but the best sort of ordinary Lake will serve well enough for ordinary Uses, but that also will be somewhat costly.

Therefore instead thereof, you may use Red Ink thickned upon the Fire, and it will serve well for that purpose, and better than Lake, unless it be very good.

Note: If you would make a light Sky-Colour of your Red Ink, you must not thicken it; or if you would mix it among your Flesh-Colour, you must not thicken it, you should rather chuse to shadow your Vermillion with Spanish Brown than thick Red Ink, which will serve very well for that purpose, and is much cheaper, but it is not altogether so bright a Colour and clear.

10. Red-lead is the nearest to an Orange Colour, and putting a little Yellow Berries into some of it, it will make a perfect Orange Colour; but if you mean to make Flesh Colour of it, you must put no Yellow, but only then when you would make an Orange Colour. This Colour is used for the Colouring of Buildings, or Highways in Landskips, being mixed with a little White. Also it is the only bright Colour to shadow Garments with, and to make them shew like changeable Taffety; it is good also to colour any light Ground in a Picture, taking only the thin Water of it, and so for several other Uses, as you shall see occasion for it.

11. Yellow Berries, it is most used in Washing of all other Colours, it is bright and transparent, fit for all Uses, and is sufficient without the Use of any other Yellow.

12. Saffron is a deep Yellow, if you let it stand a pretty while; it is good principally to shadow Yellow Berries with, instead of Red-lead, and it is somewhat a brighter Shadow, but you may make shift well enough without this Colour, for Red-lead and Yellow Berries make just such another Colour.

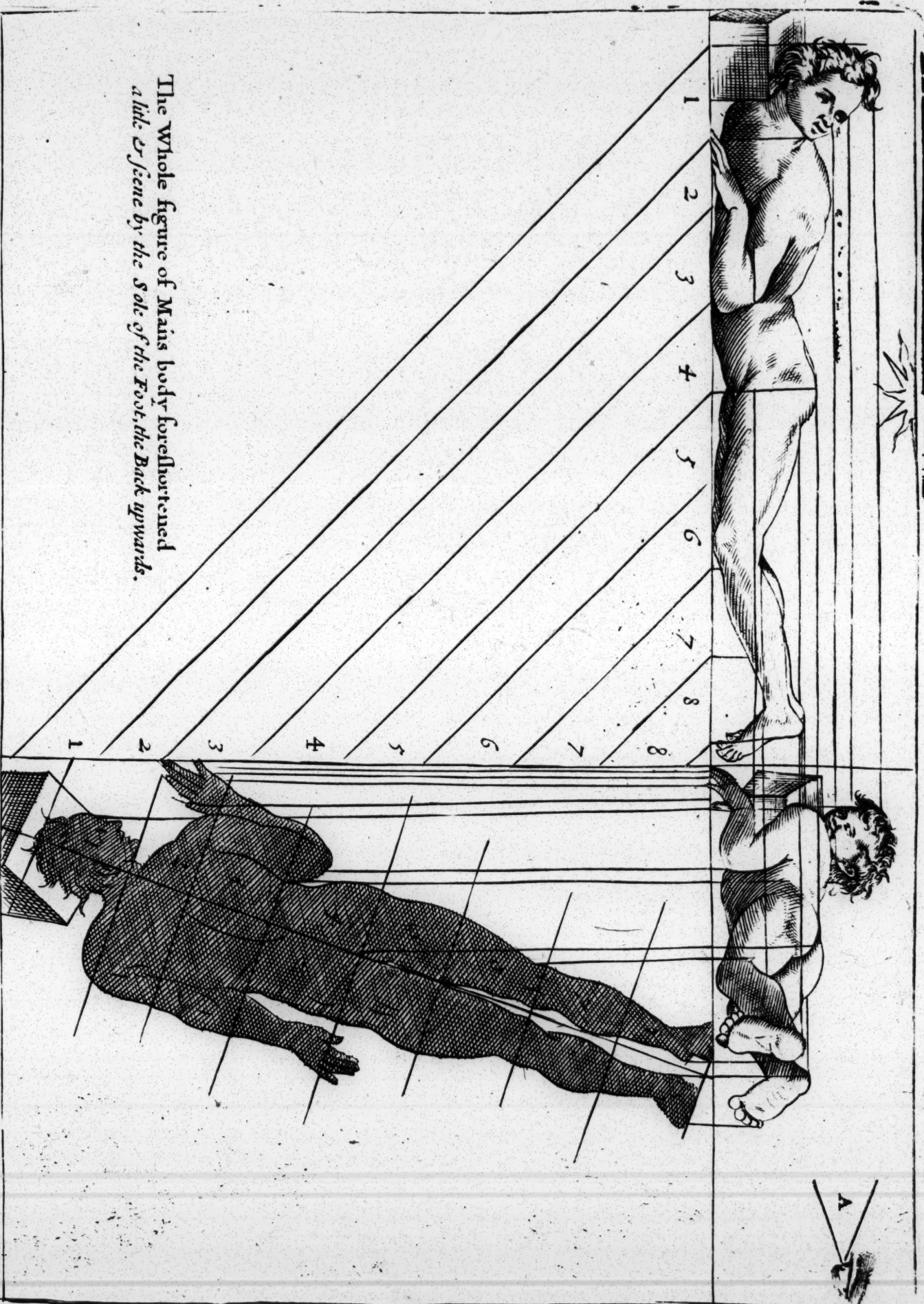
13. Light Masticote; it is a light Yellow just like Yellow Berries and White, and therefore you may shift well enough without it, only for the saving your Labour to mix your Yellow Berries with White, when you have occasion for a light Yellow, which you may sometimes make use of to colour a light Ground in a Picture, and then shadow it with the Water of burnt Umber, or Red-lead, that is the thinnest part of the Colour.

14. Ceruse, it is the best White, if it be good and finely ground ready to your Hand, as you may have it at some Colour Shops; for want of it buy White-lead pick'd to your Hand, either of them will serve well enough; any of these being mingled with another Colour, they make it lighter, and the more you put, the lighter they will be, as you shall find in the using of them.

15. Spanish Brown is a dirty brown Colour, yet of great use, not to colour any Garment with, unless it be an Old Man's Gown, but to shadow Vermillion, or to lay upon any dark Ground behind a Picture, or to shadow Yellow Berries in the darkest Places, when you want Lake, or thick Red Ink.

16. It is the best and brightest Colour when it is burnt in the Fire till it be Red hot, but if you would colour any Hare, Horse, Dog, or the like, you must not burn it, but for other Uses it is best when it is burnt; as to colour any wooden Post, Bodies of Trees, or any thing else of Wood, or any dark Ground in a Picture; it is not to be used about any Garments, unless you would Colour many Old Mens Gowns or Caps standing together, because they must not be all of one Colour of Black, therefore for Distinction and Varieties sake, you may use Umber unburnt for some of them.

17. Printers



The Whole figure of Mains body foreshortened
a little scene by the Side of the Foot, the Back upwards.

Having made the figure foreshortened at length by the Side, the back upwards. You must also observe the measures as appeared in the level line: 1. 2. 3. 4. 5. 6. 7. 8. and send up the said measures and proportions by the Division of lines upon the perpendicular which separates the foreshortened figure and the shadow of the above said figure scene aside. Then to make the figure of the shadow, you must draw a line, sloping in the middle of the figure, as they are proportioned, and measure marked 1. 2. 3. 4. 5. 6. 7. 8. The first marked 1. for the head, the second 2. for the shoulder, and so on, until you reach the last marked 8. for the feet. And to make the shadow, you must draw a line, sloping in the middle of the figure, as they are proportioned, and measure marked 1. 2. 3. 4. 5. 6. 7. 8. the Back. And to make the shadow, you must draw a line, sloping in the middle of the figure, as they are proportioned, and measure marked 1. 2. 3. 4. 5. 6. 7. 8. which and of the level lines: the foreshortened figure and parts of the same scene by the Side of the feet, the back upwards is described as appeared in the demonstration of this present figure.

17. Printers Black is most used, because it is the easiest to be had, and serves very well in washing: Note: you must never put any Black amongst your Colours to make them dark, for it will make them dirty, neither should you shadow any Colour with Black, unless it be Spanish Brown; when you would colour any Old Man's Gown, that requires to be done of a sad Colour; for whatsoever is shadowed with Black, will look dirtily, and not bright, fair, and beautiful.

18. Ivory burnt, or for want of that, Bone burnt, it is the blackest Black that is, and it is thus made; take Ivory, or for want of it, some white Bone, and put it into the Fire, till it be thorowly burned, then take it out and let it cool, and so slit it in the middle, and take out the blackest of it in the middle, and grind it for your Use.

How to make a curious Colour of East-India Red-Cakes.

TAKE a piece of Red-Cake, and put it into an Oyster-shell, or a Muscle-shell, that is wash'd very clean, and put to it a little fair Water, just enough to wet it all over, and so let it lie about a quarter of an Hour, and then squeeze it hard against the Shell, or wring it out between your Fingers, and there will come out a most excellent transparent Colour, which will serve very well instead of Lake, if your red Cake be good; the best choice you may have where this Book is sold. Note, that there is a great many of them are Counterfeit, and good for little, which you may easily know, by cutting into them a little way with your Knife, which if they be good, they are as Red within as they are without: If bad, they look very pale and whitish within.

Directions for the mixing of your Colours.

1. **I**N mixing of any Colour, you must be very careful you make it not too sad; if one Colour be sadder than the other that you mix with it, put in but a little and a little of the sad Colour, till you see it be sad enough for your purpose, for if you make your Colour too sad, you will very hardly recover it in mixing, and if you lay it so on your Picture, you can never recover, but if it be too light, you may make it darker at your Pleasure.

2. In mixing your Colours, you must be careful that you put not your Pencils out of one Colour into another, for that will spoil and dirty all your Colours, unless you wash your Pencils clean, and then wipe the Water out of them.

3. Black is not to be mingled with any Colour but White, for it dirtieth all other Colours, and makes them look unpleasant.

4. You should, when you mix any Colours, stir them about with your Pencil, that so you might stir up the Colour, and might not take the thin Water only to mix, nor yet the bottom only; but the Water being well coloured, pour it out into a Shell, and then stir the other Colour in like manner, and so mingle them together; you should pour out the lightest Colour first, that so you might the better know what Quantity of the sadder will serve your turn.

Particular Directions for the Compounding of Colours, or mingling one Colour with another.

How to make a Purple Colour.

TAKE Logwood, and seeth it in Vinegar and small Beer, in an Earthen Pot, and put a little Allum therein, until you taste it to be strong on your Tongue, and when it is boiled, strain the Log-wood through a Clout, clean from the Water, and so let the Water stand and cool for your Use.

O R,

YOU may make Purple Colour with mixing Bise and Lake together, or if you want Bise, you may use blue Verditer, but it will not serve your Purpose so well as blue Bise, but thick Red Ink will serve at all times as well as Lake in washing.

How to make Red Ink.

BOIL Brasil as you do the Logwood, and strain the Brasil through a Clout, as before.

A Flesh Colour.

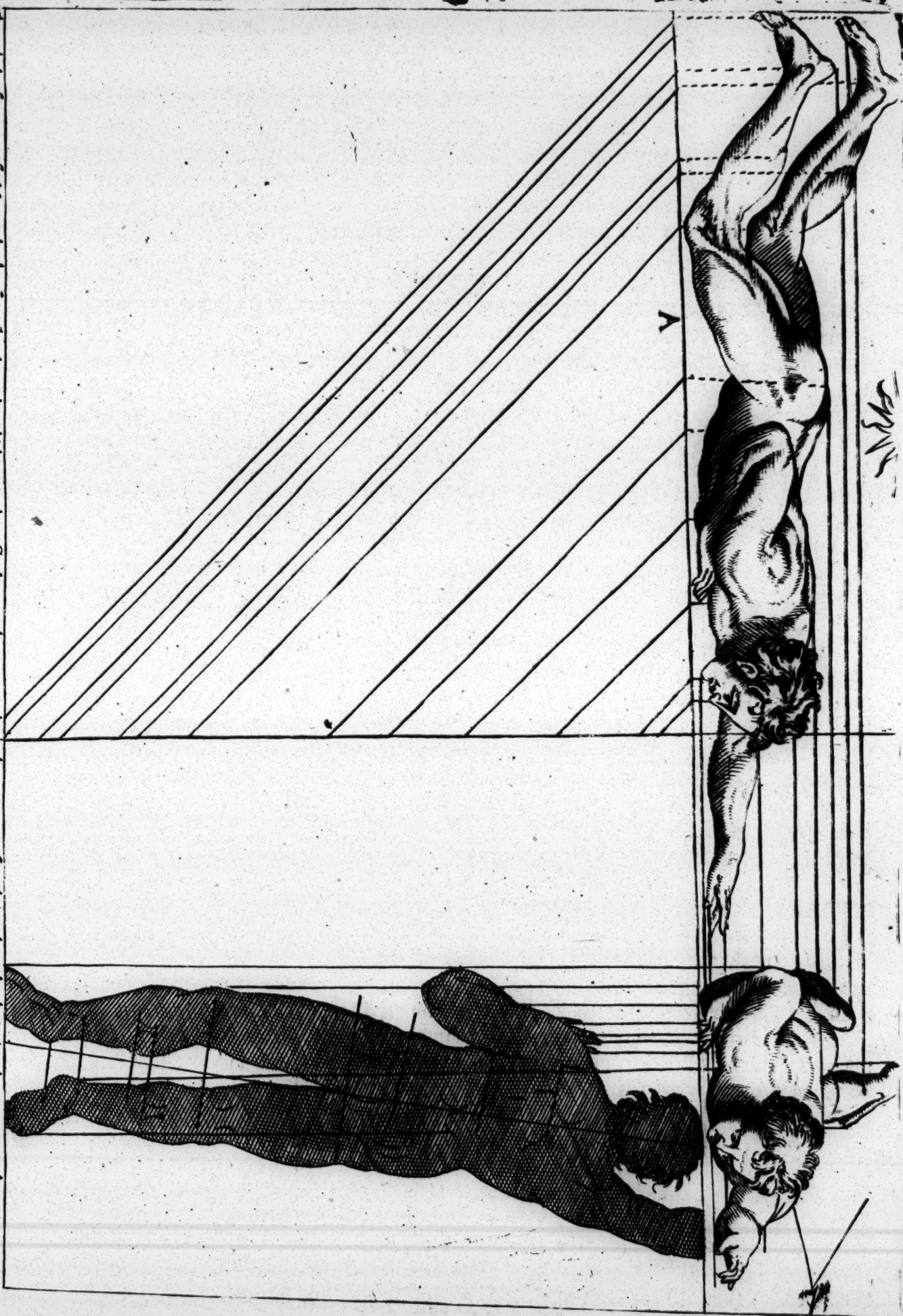
IT is made of White and a little Lake, and a little Red-lead mixed, a very small Quantity of each; you may make it as light, or as red as you please, by putting more or less White in it; shadow in the Cheeks and other Places, by putting in a little more Lake and Red-lead into it; if you would have it a swarthy Complexion, to distinguish the Man's Flesh from the Woman's, put a little Yellow-Oker among your Flesh, and for your Shadow put a little more Lake, and a small Quantity of burnt Umber.

An Ash Colour is compounded of Black and White.

You may make your Greens lighter, by mingling it well with Yellow Berries, or White.

Colours for Buildings.

IN Washing we do not observe the Natural Colours of every Thing, as to express Variety of Colours and Pleasantness to the Sight, that Things coloured may appear beautiful to the Eye, yet so as they may not be contrary to Reason, and be accounted ridiculous; but that we do somewhat imitate natural Things, and here and there add some Beauty by pleasant Colours, more than do usually and commonly appear in the natural Things themselves; so that although the natural Things themselves do very rarely appear in such Beauty, or with such kind of Colours, yet it may be imagined, that it is possible, that at some Times they do or may be made (without derogating from the Rule of Nature and Reason) to appear in such Colours as you have express'd them in; by this Rule you may guide your self in colouring of any Thing, principally in Buildings and in Landships; therefore when you would



The whole figure of Ma^rs body is shortened a little on the Syde and seen by the top of the head the back upward
 The precedent demonstration shall serve us in this figure foreshortened seen by the top of the head, w^h out alteration of any thing for
 the lynes that mount perpendicularly proceeding from the figure of the shadow onto the leuell lynes of the first figure
 marked A their interfections doe herein give our figure foreshortened, seen by the topp of the Head,

colour any Buildings, you must do it with as much Variety of pleasant Colours as the utmost Extent of Nature and Reason will permit, yet not without Reason, or beyond the Limits of Nature.

In colouring Buildings you may sometimes use Black and White for the Wall, Conduits, or other Things, where you think fit sometimes; you may use Red-Lead and White, for Brick Houses, or others; when many Houses stand together, you must colour them with as many various Colours as you can well use about Buildings; sometimes you may use Umber and White, and sometimes Lake and White, or Red Ink and White, for Varieties sake; and if you want more Variety, you may put here and there, in some Places, Verditer and White; all these you must shadow after you have laid them on.

Colours for Landships.

FOR the nearest and darkest saddest Hills, lay burnt Umber; and for the light Places you sometimes put some Yellow to your burnt Umber, for the next Hills lay Copper-green well thickned with the Fire, or in the Sun; in the next Hills further off, mingle some Yellow Berries with your Copper-green, and let the fourth degree be done with Green Verditer, and the furthest faintest Places with Blue Bise, or for want of that, with blue Verditer mingled with White for the lightest Places, and shadowed with Blue Verditer in the Shadows, somewhat thick: The High-ways must be done commonly with Red-lead and White; for Variety you may use sometimes Yellow Oker, and shadow it with burnt Umber, which Colour you may use also for sandy Rocks and Hills. The Rocks must be done with various Colours, in some Places with Black and White, in some Places with Red-lead and White, and some must be done with Umber and White, and some with Blue and White, and other Colours, such as you think do nearest resemble Rocks; but always endeavour to do them with pleasant Colours, as much as you can: The Water must be done with Blue Verditer and White, sometimes shadowed with Copper Green, a little Blue Verditer, when the Banks cast a green Shade upon the Water, at other Times it must be shadowed with Blue Verditer alone; and where the Water is very dark in the Shadows, it must be shadowed with a little Indico, some Copper-green thickned, and some Blue Verditer: The Bodies of Trees must be done with burnt Umber, and the Leaves must be done with such Greens as the Ground is, and the whole Landskip must be shadowed, after you have laid on the first Colours, the darker Greens must shadow the Lighter, Spanish Brown then must shadow Red-lead and White, and so the others as before.

Colours for the Skie.

Light Masticote, or Yellow Berries and White, for the lowest and lightest Places, Red Ink not thickned, and White for the next degree, Blue Bise and White for the next degree, and Blue Bise alone for the highest of all; instead of Bise you may use Verditer, all these must be so laid on, and wrought one into another, that you may not receive any Sharpness in the Edge of your Colour, but that they may be so laid on, that you cannot perceive where you began to lay them on, they must be so drowned one into another.

For Cloud Colours, you may use sometimes Blue Verditer, and White shadowed with Blue Verditer, sometimes light Masticote shadowed with Blue Verditer, and sometimes Lake and White, or Red Ink and White shadowed with Blue Verditer.

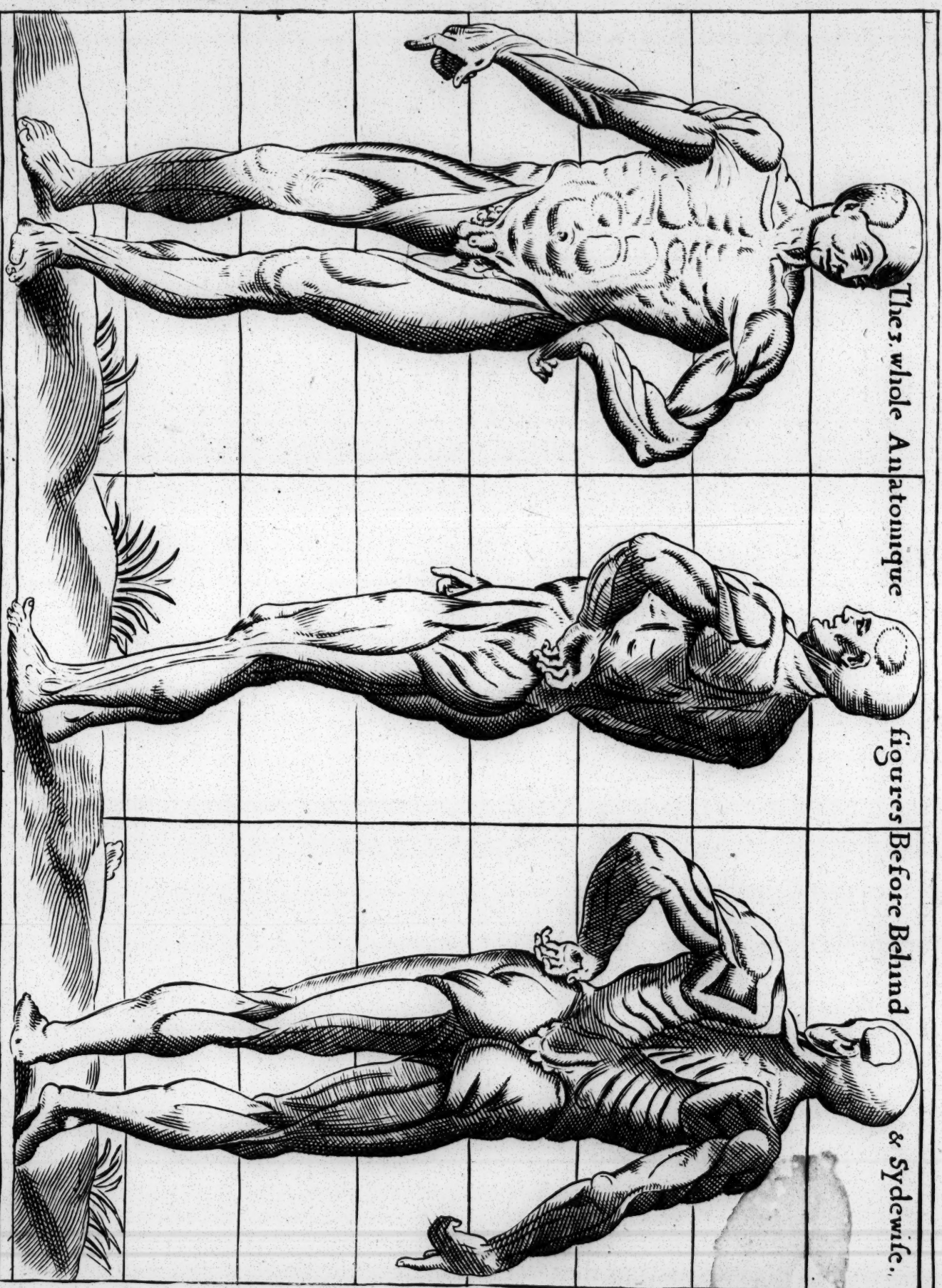
What Shadows must be used for every Colour in Garments.

TAKE this general Rule, that every Colour is made to shadow it self, either if you mingle it with White for the Light, and so shadow it with the same Colour, unmingled with White, or else take off the thinnest Water of the Colour for the Light, and so shadow it with the thickest bottom of the Colour; but if you would have your shadow of a darker Colour than the Colour it self is, to shadow the deepest Places with, then follow these Directions.

1. Blue Bise is shadowed with Indico in the darkest Shadows.
2. Indico is dark enough to make the darkest Shadow, therefore needs no other Colour to shadow it withal.
3. Blue Verditer is shadowed with thin Indico.
4. Verdigrice with Sap-green.
5. Verditer with Copper Green, and in the darkest Places of all with Sap-green.
6. Sap-green is used only to shadow other Greens, and not to lay for a Ground in any Garment.
7. Copper-green is shadowed either with Sap-green, or Indico and Yellow Berries.
8. Vermillion with Lake, or thick Red Ink, or Spanish Brown.
9. Lake must not be shadowed with any other Colour, for it is the darkest Red of it self; but for Variety you may shadow it sometimes with Bise, or Blue Verditer, which makes it shew like a changeable Taffety.
10. Red-lead is shadowed with Spanish Brown in the darkest Places.
11. Yellow Berries, the natural Shadow for it is Umber, but for the Beauties sake it is seldom shadowed with Umber, but sometimes, and most commonly with Red-lead, and the darkest Touches with thick Red Ink, or Spanish Brown; sometimes for varieties sake it is shadowed with Copper Green thick, and sometimes with Blue Bise, or Blue Verditer, and with any other beautiful Colour.
12. Saffron is shadowed with thick Red Ink or Lake.
13. Light Masticote with the thin Water of Red-lead.
- 14, 15. White Ceruse, and White Lead, with a little Black amongst some of it mingled.
16. Spanish Brown with Black, but that is not used in any bright Garment.
17. Umber with Black mingled with some of it.
18. Black cannot be shadowed with any Colour darker than it self.

Directions for the laying of your Colours.

1. **Y**OU must lay your Colours on of such a Thickness, I mean your Bodied Colours, that you may see how to shadow them, to perceive where the Shadows are, and not lay on your Colour so thick that you cannot perceive the Print, nor how and where to shadow



In these three whole Anatomiques, are represented the Muscles as well Before and Behind as Sydwile. And the said Figures are made by such observations and measures as is before herein declared. And you may note that the draught of the Figure for before is much also for the Figure Behind so as in each for that in the making of the one you also have made the other taking the opposite of the Draught and the right spaces which are between the myne lines are the right measures and proportions of the Head which are to be observed in Human bodies.

show it. 2. You must always lay on your lightest Colours first, and then shadow them afterwards. 3. You must lay on your Colours very smooth with your Pencil, that the Colour may not lie thicker in some Places than in other, and to that end, you should take your Pencil pretty full of Colour, when you should cover a Garment all over, (otherwise not) that so you may lay the Colour smooth before it dry, for you cannot well smooth them afterwards when they are once dry; therefore when you lay them on, be as quick as you can in covering the Garment, that you may have covered it all over before your Colour be dry on any Part; for by this means you shall be the better able to lay it smooth; some Colours are harder to lay than others; those that are the most sandy Colours, as Verditer, Bise, Red-lead, &c. are hardest to lay smooth on, and therefore you must be the more careful in them.

What Colours set off the best together.

1. **B**lues set off well enough with Reds, Yellows, Whites, Browns, and Blacks. They set off with Reds, Whites, and Browns. They set not off well with Greens and Purples.
2. Greens set off well with Purples, Reds, Yellows, or Browns. They set off best with Purples and Reds. They set not off well with Blues or Blacks, nor Whites, unless it be a sad Green.
3. Reds set off well with Yellows, Blues, Greens, or Whites. They set off best with Yellows and Blues. They set not off with Purples, Browns or Blacks.
4. Yellows set off well with Reds, sad Blues, Greens, Browns, Purples. They set off best with Reds and Blues. They set not off well with light Greens, Blacks or Whites.
5. Whites set off with all Colours. They set off best with Black and Blue.
6. Browns set off very well with no Colour, but are used sometimes upon necessity: They set off worst of all with Black, because they are so near alike.
7. Blacks are not used but upon necessary Occasions in some Things that do needfully require it; and so it sets off well enough with almost any Colour, because it is not like any, but differs somewhat from all.

How to Write Gold with a Pen or Pencil.

Take a Shell of Gold, and put a little Gum-water into it, and so stir it about with your Pensil, but you must put very little Gum-water; and then you may use it as you do other Colours.

How to lay Gold or Silver on Gum-water.

Take five or six Leaves of Gold or Silver, and grind them with stiff Gum-water, and a pretty quantity of Salt, as fine as possibly you can, then put them into a Jar-Glass and fill the Glass almost full of fair Water, to the end the stiff Water may dissolve, and so the Gold go to the bottom, let it stand three or four Hours, then pour away the Liquor from the Gold, and put in more clean Water, and stir it about, and let it settle again, and then pour the same Water to this, so often until you see your Gold or Silver clean washed: Then take a clean Water, and put thereto a little Piece of Sal Almoniack, and great Salt, and let it stand the Space of three Days, in a Box made of Wax, or in some close Place: Then take a Piece of Glover's-Leather, and pick away the Skin-side, and put the Gold and the Water therein; tie it up, then hang it on a Pin, and the Salt will fret through, and the Gold will remain, which you shall temper with the Glair of an Egg, and so use it with Pen or Pencil.

You must Diaper on Gold, with Lake or Yellow Oker, put on Silver with Ceruse.

Let your Gum-water be made good and stiff, and lay it on with your Pencil, where you would gild, then take a Cushion that hath a smooth Leather, and turn the bottom upward, upon that cut your Gold with a sharp Knife, in what Quantity you will, and to take it up, draw the Edge of your Knife finely upon your Tongue, that it may be only wet, with which do but touch the Edge of your Gold, and it will come up, and you may use it as you list, but before you lay it on, let your Gum be almost dry, and being laid, press it down hard with the Scut of an Hare, afterwards burnish it with a Dog's-Tooth.

Of Limning.

Limning consisteth not only in the true Proportion of a Picture, but also in the neat and lively colouring of the same, whereby the Work is exceedingly graced, and most lively set out in proper Colours, most nearly resembling the Life.

How to chuse your Pencils.

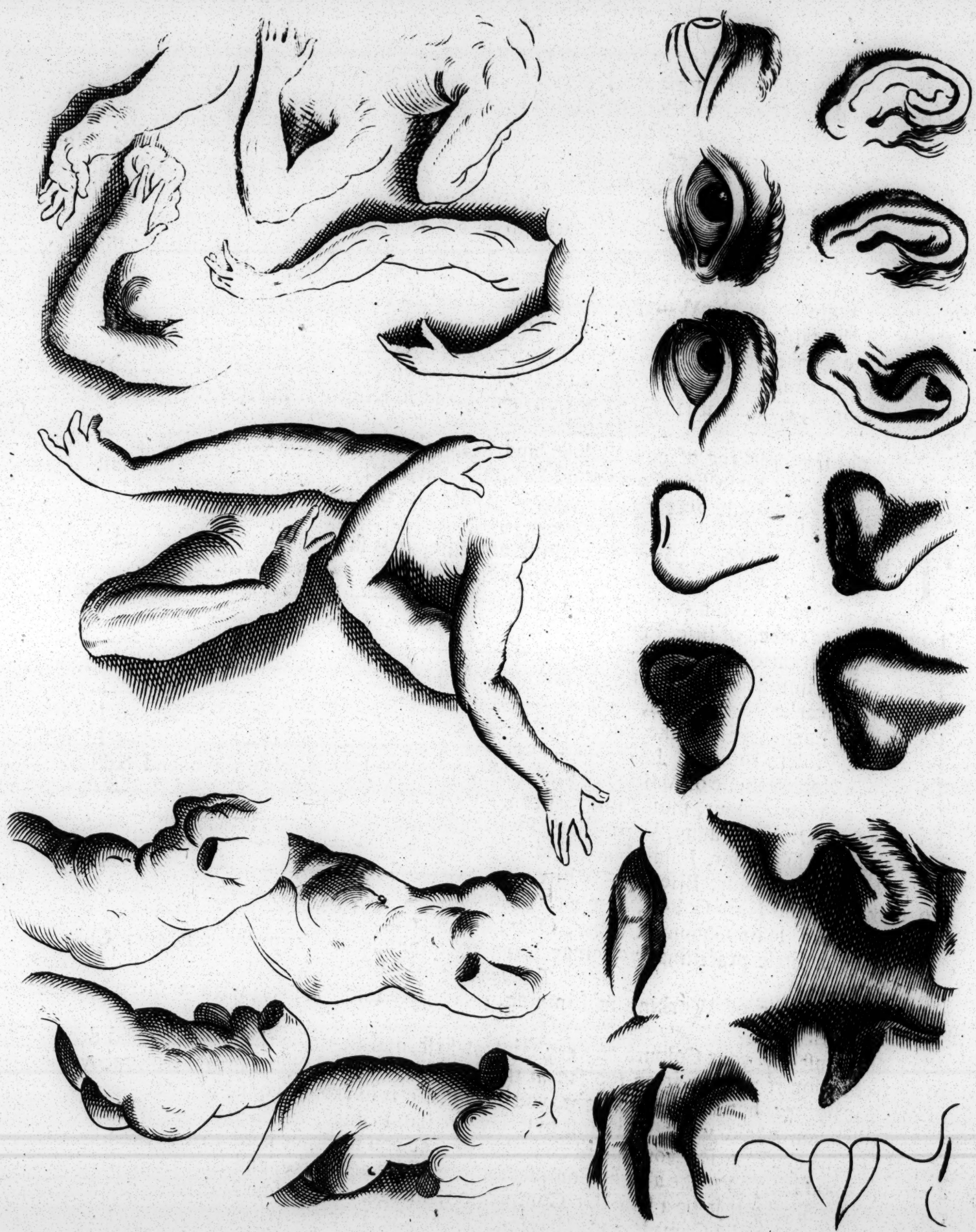
LET them be clean and sharp pointed, not cleaving in two in the Hair, they must be full and thick next the Quill, and so descending into a round and sharp Point; if you find any one Hair longer than another, take it away with the Flame of a Candle, passing the Pencil through the Flame; you must have several Pencils for several Colours.

Gum Araback.

AMongst all your Colours, you must mingle Gum Araback, the best and whitest, which you should have always ready, finely poudred (or dissolved in fair Water) and so with a few Drops of pure Water, mingle it with your Colour, and temper them together, till the Gum be dissolved and incorporated with the Colours.

How to grind your Colours.

YOU must grind your Colours either upon a Porphyre, Serpentine, or Pebble-stone, which are the hardest, and therefore the best to grind upon; grind them with fair Water only, without Gum, and when you have ground them very fine, put them upon a Chalk-stone, and there let them dry, and when they are dry, take them off from the Chalk, and reserve them for your Use in Papers or Boxes.



The Names of your Colours.

Whites, *Ceruse, White Lead.* Yellows, *Masticote, Yellow Oker, English Oker.* Greens, *Sap-green, Pink and Blue Bise, Green Bise, Cedar Green, Verditer.* Blues, *Indico, Ultramarine, Blue Bise, Smalt.* Browns, *Umber, Spanish Brown, Cullins Earth.* Reds, *Indian Lake, Red-Lead, Red Oker, Indian Red Cakes.* Blacks, *Cheristone burnt, Ivory burnt, Lamb-black.*

What Colours must be Wash'd, and what Ground.

Ground, *Ceruse, White Lead, Indian Lake, English Oker, Pink, Indico, Umber, Spanish Brown, Colens Earth, Cheristone Black, Ivory Black.* Wash'd, *Red-Lead, Masticote, Green Bise, Cedar, Green, Ultramarine, Blue Bise, Smalt, Verditer, Sap-Green* is to be steep'd in Water.

How to Wash your Colours.

TAKE some Blue Bise, or other Colour you would Wash, and put it into a Dish full of pure Water, stir it for a while together, till the Water be all coloured, then let it stand a while, and the Corruption will fleet upon the Water, then pour away the Water, and fill the Dish with fresh Water, and stir it as before, till the Water be troubled and thick; which done, before it be half settled, pour it out into another Dish, leaving the Dregs and Seethings of your Colour in the former Dish, which you must cast away; the troubled and coloured Water being poured into your second Dish, put more Water to it, and wash it as before, then let it settle till it be clear, and so pour off the Water, washing it again and again; if any Scum arise which may make four or five sorts, still pouring half the thin Water into another Dish, and washing it as aforesaid; when you have washed it often, and find it well cleansed, pour away the Water, then set the Colour in the Sun to dry, and when it is dry, strike off the faintest Part of the Colour, lying about the Sides of the Dish, with a Feather, and so use it for your finest Work, the rest will serve well for courser Work.

When you would use your Colour, take of it as much as you can well spread about the sides of a Shell, somewhat thin, and not on heaps, and so temper it finely with your Gum, as before.

To avoid the cracking of your Colour, and flying from the Shell, to which some Colours are subject, take a little fine Powder of White Sugar-candy, and with it a little fair Water, temper the Colour over again with your Finger till the Candy be dissolved.

Colours for Garments.

TO make a Grass Green, is made of Pink and Bise, it is shadowed with Indico and Pink.

To make a Popinja Green of Indico and more Pink, shadowed with Indico.

To make a French Green of Pink and Indico, _____ Indico.

To make a Sea Green of Bise, Pink, and White, _____ Indico

To make a Carnation of Lake and White, _____ Lake.

To make a Crimson and Vermillion, Lake and White, _____ Lake.

To make a Scarlet, Vermillion, _____ Lake

To make a Purple, Bise, Lake, and White, _____ Lake and Indico.

To make a Violet, Bise and Lake, _____ Indico.

To make a Yellow made of Masticote, Pink and Saffron shadowed with Lake and Saffron.

To make a Straw-Colour, most Pink, Saffron, White and Vermillion, _____ Lake

To make an Orange Tauny, Vermillion, Pink and Masticote, _____ Lake.

To make an Ash Colour, Lamb-black and White, _____ Black.

To make a Sky Colour, Bise and White, _____ Bise.

To make a Light Hair Colour, Umber, Yellow Oker, and White, _____ Umber.

To make a Sad Hair Colour, Umber, Oker, and Black, _____ Umber and Black.

Thus by a little practising, you may learn to mingle and compound all other Colours whatsoever.

The manner of working.

1. **T**HE manner of Working in Limning, is by little small Pricks with a sharp pointed Pencil.

2. You must lay your Colours on very faint at first, and so make them deeper and deeper by degrees; for if you lay it on too sad at the first, it is impossible you should well recover it to make it lighter, but if it be too light, you may make it darker at your Pleasure.

3. When you would work, you must first lay on flat Primer, which must be of the lightest Part of the Complexion you intend to make, so that you may not need to heighten, or lay a lighter upon it; you make a light Complexion of White and Lake, and Red Lead temper'd together in a Shell; if it be a swarthy Complexion, mingle a little fine Masticote, or *English Oker*, or both, with the Complexion; having laid on the Primer, which you must do very quick and smooth, then draw the Features after the Primer is dry, with Lake and White very faintly, and so proceed to the perfecting of it by degrees.

Colours for the Face.

FOR the Red in the Cheeks, Lips, &c. temper Lake, Red Lead, and a little White together; for the faint Shadows that are Bluish, Indico and White together, for Bise is not used in a Face, nor any Black; for the deeper Shadows take White *English Oker* and Umber, and for dark and hard Shadows in many Pictures, use Lake and Pink mixt with Umber.

When you are come to the close of your Picture, and have almost finish'd your Face, you must in the last place, do all the Scars, Molds, Smilings, and Glancings of the Eye, Descending and Contracting of the Mouth, all which you must be sudden to express with a bold, quick, and constant Hand.

Thus



Thus by a constant Practice joined with these Directions, and your own Industry, you may in time attain to a great measure of Perfection in this Art of Limning.

For Painting in Oil.

I Have at large directed you about Colouring Maps and Prints with Water Colours, there being some small difference between that and Painting in Oil, I shall now instruct you in that also; the main Instruments for which are, *viz.* An Easel, a Pallat, a Straining Frame, a Prime Cloth, and Pencils, a Stick for a Stay, and Colours.

An Easel is made much like a Ladder, only flat, and full of Holes, to put in Wooden Pins, to set your Work higher or lower; on the Back of which is a long Piece of slit Deal, about two Inches and half broad, fastned to it with a Hinge, to set your Easel more upright or sloping; the Pallat is a thin piece of Wood made of Pear-Tree, or Walnut-Tree, and made Oval Fashion, at the narrowest End of which, is a Hole to put in your Left-Thumb into; the Straining Frame is only four pieces of slit Deal nailed together, upon which the Prime Cloth must be strained with Tacks; the Prime Cloth is to Paint upon; all these Implements you may buy at the Colour Shops: Pencils are of several Bigness and Sizes, some Painted Pencils made of Camels Hair, and some Silk Pencils, which are to sweeten your Colours, and mix them on your Cloth one amongst another; there are also some Swan Quill Pencils, and some Goose Quill Pencils, and some Pencils put into Tin, all made of Camels Hair; a Stay to rest the Right Arm, is a Stick about two Foot long, or more, which you must hold in your Left-Hand when you are at Work: The main Colours are, White, Black, Yellow, Green, Blue, Brown, and Red, some of which being in Powder, must be temper'd with a Knife on the Pallat only, and others must be ground and then temper'd.

To grind your Colours, get a Marble-Stone, or any other Stone that is smooth and hard, about a Foot long, and a Muller made of a Pebble-stone, and between those grind your Colours first very fine, and then mix some Linseed Oil with them, enough to make them moist, and so get some little Pieces of Bladder, and wet them, and tye your Colour up hard in the Bladder, which will keep them moist, and when you would use any of your Colours, prick the bottom of the Bladder with a Point of a Pin, and so squeeze the Colour out upon your Pallat, as much as you shall have occasion for. *Note:* That White must be ground only with Nut Oil. To cleanse your Grinding-stone, grind some Crumbs of Bread upon it, or Curriers Shavings; to be sure cleanse your Grinding-stone well, before you put another Colour upon it. To make clean your Pencils, get a small Tin-pan, and put a little Linseed Oil into it, and so dip the Pencil into the Oil, and holding your Fore-finger upon the Hair, stroke them out against the side of the Pan so often, till you see them clean, and then wipe them dry with a Linnen Rag.

The Colours not to be ground, are Vermillion, Masticote, Orpiment, and Bise, and Ultramarine; these are to be mixt with Oil upon the Pallat only, but Yellow Oker, and Umber, and Ivory, are to be burnt in the Fire, and then ground with Oil.

For the laying on your Colours upon the Pallat, put a little of each Colour at a convenient distance, that they may not mix one with another, lay on a little Vermillion, and then Lake, then burnt Oker, and *Indian* Red, Pink, Umber, Black, and Smalt, each in their Order, lay on most of White-Lead, because it is mostly used; Vermillion and Lake, are for the deepest Shadows in the Face, and little White and Smalt for the Eyes; for the deepest Shadows of the Face, add Lake and Brown Pink; if you are to paint a Tawny Complexion, mix together a little burnt Oker, and Umber and Pink.

For Garments; for Black Velvet, use Lamb-black and Verdigrice, shade it with White Lead mixt with Lamb-black; for Green, take Verdigrice and Masticote; for Red, take Vermillion, and shadow it with Spanish Brown, or glaze it with Lake; for Blue, take Smalt and White-lead mixt; for a sad Green, Indico and Pink; for Purple, mix Smalt and White mixt with Lake; for Orange Colour, the light part with Red-lead, and the darker shadow with Lake; for a Grasse Green, Verdigrice and Pink; lay Blues and Greens, and Red and Yellow, upon a light Ground, and thereby they will look the more pleasant.

For Colours for Landships.

FOR a Light Green, use Pink and Masticote, and Verdigrice; for the Body of some Trees, use Umber and White, for others, Umber and Black and White, with a little Verdigrice, you may add to it a little Lake or Vermillion, as you see occasion; for Wood, use Umber, White, and a little Lake, and a little Green and Yellow with it; for Fire, lay Red-lead and Vermillion temper'd together, where it is Reddest, where it is Yellow, use Masticote, where Blue, Smalt and White; for a clear bright Sky, take Smalt and White-Lead, for a Red Sky, Lake and White; for Sun Beams, or yellow Clouds, Masticote and White; for dark Clouds, Indico and White, heightened with Black.

For Painting a Face.

HAVING small Sticks put into all your Pencils, about eight Inches long, of which you should have about a Dozen and a half, and not above two or three of a Size, some pointed Pencils with Camels Hair, and other Filch Pencils, put your Left Thumb into your Pallat, and all your Pencils in your Left Hand, the Points uppermost, and your Stay Stick in your Left Hand also, set the Cloth strained upon your Easel, at a convenient length, let the Light come in on your Left Hand; if you draw any one's Picture, let them sit about the distance of Five Foot from you, then with a piece of White Chalk cut to a Point, draw the propor-



nion of the Face upon the Cloth, with the Place of the Eyes, Nose, Mouth, Ears, Hair and Neck, and Drapery; then take a pointed Swan's Quill Pencil, and begin to paint the light Part of the Face with your lightest Colours, as the heightning the Forehead, the lightest part of the Nose, and Cheek-Bones, and so proceed by degrees, mixing your Colour higher and higher; the Colours, both light and dark, being laid on, take a Filch Swan's Quill Pencil, and sweeten your Colours therewith, and then go over the Shadow with a clean soft Pencil, which being artificially handled, will mix the Colours one with another, that they will look very beautiful and pleasant.

How to lay Pictures upon Glafs to be Painted.

Take a Print done in Metzo Tincto, (the best Choice of which you may have where this Book is sold, viz. at the Print-Shop next the *Exchange-Stairs* in *Cornhill*) lay the Print in Water in a Skillet, or any other Vessel, and let it boil over a gentle Fire about two or three Hours, but if the Paper be very thin, it need not boil so long, and against the Print is boiled, which you may perceive by its sinking to the bottom, then take a Piece of Looking-Glass Plate, or a piece of the whitest Crown Glass, and set it against the Fire to keep it warm, then take a little Venice Turpentine, and set in a Gallipot on the Fire to make it liquid; then having taken your Print out of the boiling Water, lay it between two Sheets of Paper, till you with a pretty large Pencil, lay the Venice Turpentine all over the Glass, which must be laid very even; then the right-side of the Picture lying uppermost, lay the Glass upon the Print, then lay a piece of Paper upon the Print, and smooth it down with the Palm of your Hand, so long till it stick close all over, without having any Blister upon it; and then rub the back-side of the Print with your Fingers, and you will find the Paper to rowl off, which you must rub so long, till you find but as it were a thin Skin of the Picture to remain upon the Glass; but you must be sure to take Care that you do not rub holes in the Picture; and after it is dry, you must varnish it over once with some white Varnish, by which means it will appear very transparent, and so paint it with Oil Colours, as your Fancy shall direct you.

Another way to prepare the Picture without boiling in hot Water.

Take a Print done in Metzo Tincto, and lay it in a Tray, or any other thing, wherein it may lie smooth, and put in so much Water as may cover it all over, and let it lie in the Water two, three, or four Hours, till the Picture sinks to the bottom, and it seems to be rotten, and then prepare your Glass, and order the Print, as is in the former Direction.

Another way of Painting Metzo Tincto Pictures without Glafs.

Take a small straining Frame, and having your Print just wet all over with a Linnen Rag, or a Sponge, paste that side of the Straining Frame you design to stick your Picture upon, and paste also the Margin of the Print, and so stick the Print upon the straining Frame, straining it as smooth as you can, and then after the Print is dry, take some Spirit Varnish, (which you may have at the Print Shop at the *Exchange*) and with a pretty large Pencil varnish the Print all over on the back-side, and about an Hour after, the Varnish being dry, varnish it over again, and so about three or four times over, and varnish it once over on the right side of the Print, by which means you will see it look very transparent, and then Colour it with Oil Colour, as you shall think best.

To lay Prints on Glafs, that so you may rowl off all the Paper.

Soak the Print in Water, and dry it in a clean Linnen Cloth, and then do it over with Oil, Mastick, and some Venice Turpentine, and lay on the Print, smoothing it down as before, and when it is almost dry, brush off the Paper, and so you may paint it as you think fit.

Your Picture being fixt upon the Glass, take four Pieces of thin slit Deal, about an Inch and half broad, and about eighteen Inches long, and so with a Gimblet make holes in them about an Inch distance, and so pin them together with little wooden Pegs, that so you may put them closer or wider, according to the Bigness of your Print you Paint, and setting the Glass shelving upon this Frame, lay a clean Sheet of white Paper behind the Picture upon the Table, which will cast a white Reflection thro' the Glass.

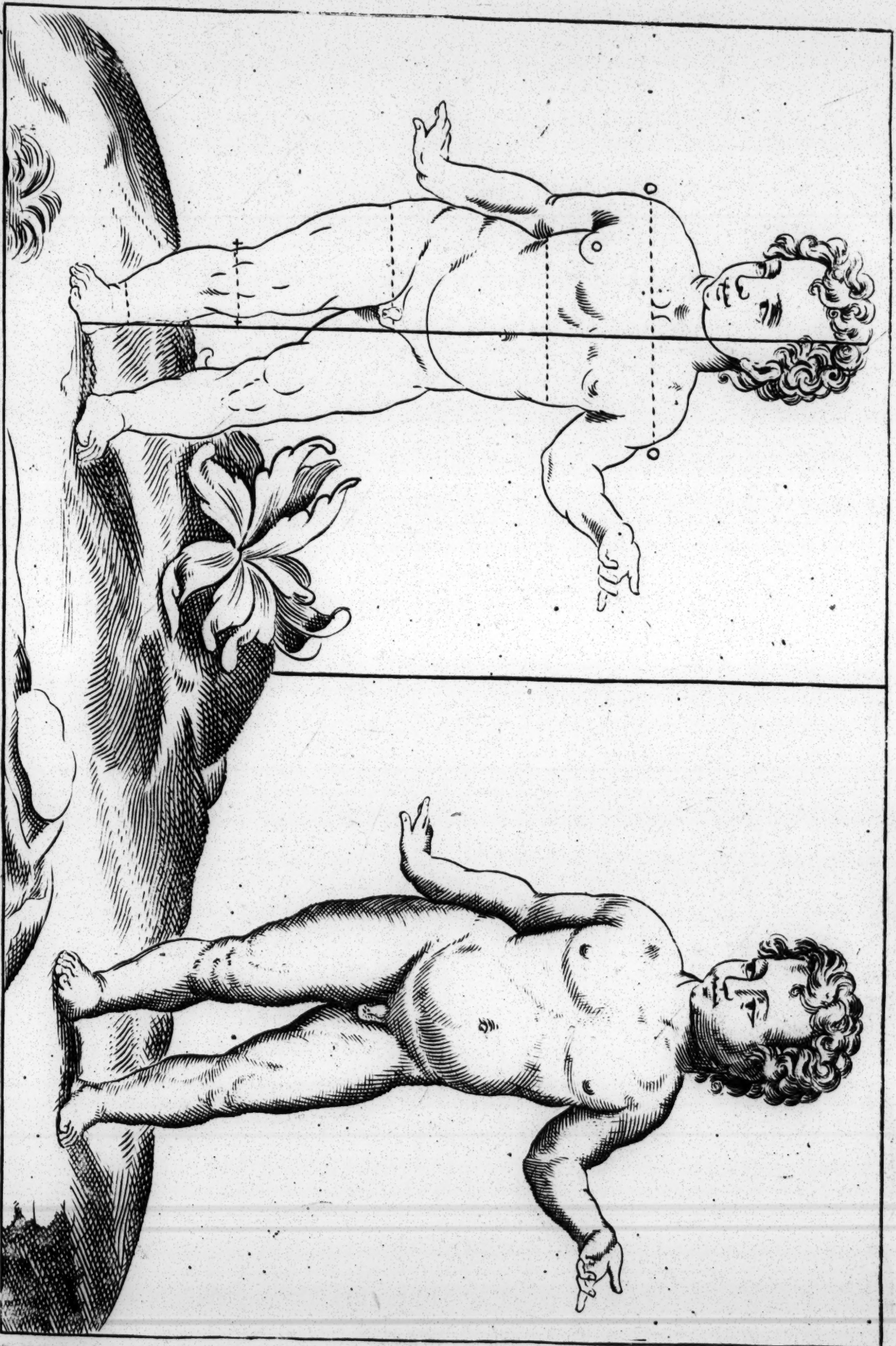
For your Colours to Paint Pictures on Glafs withal, which you may buy cheapest at the Colour Shops.

They are, White Lead, or Flake White, Yellow and Brown Oker, Dutch Pink, Brown, or Glazing Pink, fine Lake, Yellow Oker burnt makes a good Red, Terravert, distilled Verdigrice, Umber, Collins-Earth, Ivory Black, or Printers Black, other Colours are to be mixt on your Pallat, as you shall have need to use them, they being in Powder, as Vermillion, fine Smalt, Caramine, yellow and pale Masticote, Red-Orpiment, to be mixt with drying Oil.

You may mix all your Colours with Linseed-Oil, except White, which is to be mixt with Nut-Oil only; and indeed most people use Nut-Oil with all their Colours, and some mix their Colours, because to have them dry soon, with fine White Varnish, but that not in a Face; the Colour-shops sell the Varnish at three Pence the Ounce, which is made of Venice-Turpentine, and Oil of Turpentine mixt and boiled upon a gentle Fire together; you may put an Ounce of Oil of Turpentine to half an Ounce of Venice-Turpentine.

To Paint a Face or Garment.

Touch your deep Shadows with Lake, or Brown Pink mixt with Varnish, and then the White Ball of the Eye with White, the Lips with Vermillion, or Carramine, or Lake, and so do the dark Shadows with Brown Pink, or Vermillion, or Yellow Oker, as the Complexion is, you design to paint. Use Terravert mixt with Linseed Oil in the Veiny part, as about the Temples and Neck. But take this for a general Rule, use the darkest Colour



The proportion and measure of a Child standing forward contraineth but five measures of the head to wit 3 from the top of the head to the privities, and two more in the thighs and legs; as appears in this figure, and the breadth between the shoulders is the length of a head and a half, as appears by a thwart prick'd line marked O. and the breadth of the body above the navel marked also with a cross prick'd line is the length of one head. the breadth of the upper part of the thigh marked with a prick'd line opposite to the privities, is the third part of two lengths of the head. the knee marked with a small thwart prick'd line and a little * at both ends is of the just length as between the eye and chin. the small of y^e leg and the breadth of the arm are of the thickness of the neck.

your first, a lighter Colour next, and a pale Colour, or White, only in the Lights, which must be observed both in Faces and in Garments. For it is a general Error in most Prints I have seen painted upon Glass, as a Red Garment they lay it all over Vermillion, a Blue Garment they lay it all over Smalt, and never regard the Lights, Folds, nor Pleats of a Garment, to heighten them with deeper Colours in the Darks, and to soften them with White or Light Colours in the Lights, as the Print is. If you would do a Gold-Fringe upon a Garment, take some Shell-Gold and mixt it with Gum-water, and work it, and let it be dry before you lay on your Oil-Colours upon the Garment.

Lake and Smalt mixt makes a fine Purple for a Garment. To make a pleasant Red Garment, Glaze it over with Carramine, and when it is dry, you may do it with White and Vermillion in the lightest places only; or, Carramine being dear, you may use Lake instead only. For a Blue Garment, mix fine Smalt and White together. For a Yellow Garment, glaze it with Brown-pink, and then do it with a pale Masticate in the light places of all, and with a Yellow Masticate in the darker Shadows, and with Umber and Yellow-pink in the darkest places of all.

To make the best White Varnish.

TAKE one pound of the whitest Gum Sandriack, one Ounce of the whitest Gum Mastick, three Ounces of the clearest Venice Turpentine, one Ounce and half of Gum Capal, half an Ounce of Gum Elemni, half an Ounce of Gum Bezoïn, or Benjamin, the clearest, and one Ounce and half of the clearest Gum Animæ, and half an Ounce of white Rozin: Put the Capal and Rozin in a Glass-viol, with half a pint of Spirits to dissolve them, and put the Gum Animæ Benjamin and Venice Turpentine to 3 quarters of a pint of Spirits of Wine into another Glass, and put the Gum Sandriack and Mastick to a pint and half of Spirits into another Bottle, and put the Gum Elemni to a quarter of a pint of Spirits into another Viol. All your Spirits should not exceed three Quarts. They must be dissolved in this manner: The better to extract the whole Virtue of each Gum, remember that the Gum Animæ and Benjamin be very finely powder'd, before they are mixed with the Spirits, and bruise the Capal and Rozin. For the first Day, shake each Bottle or Viol once in two Hours; afterwards shake them at your own Convenience; then take a Bottle large enough to hold all the Varnish you have made, and throw a fine linnen Strainer (made so as Women make Strainers for Jellies) strain all your Gums mix'd as aforesaid, but squeeze them gently. The Varnish thus strained, having stood three or four Days (the longer the better) pour off gently as much as will come very clear, reserving the muddy part at the bottom.

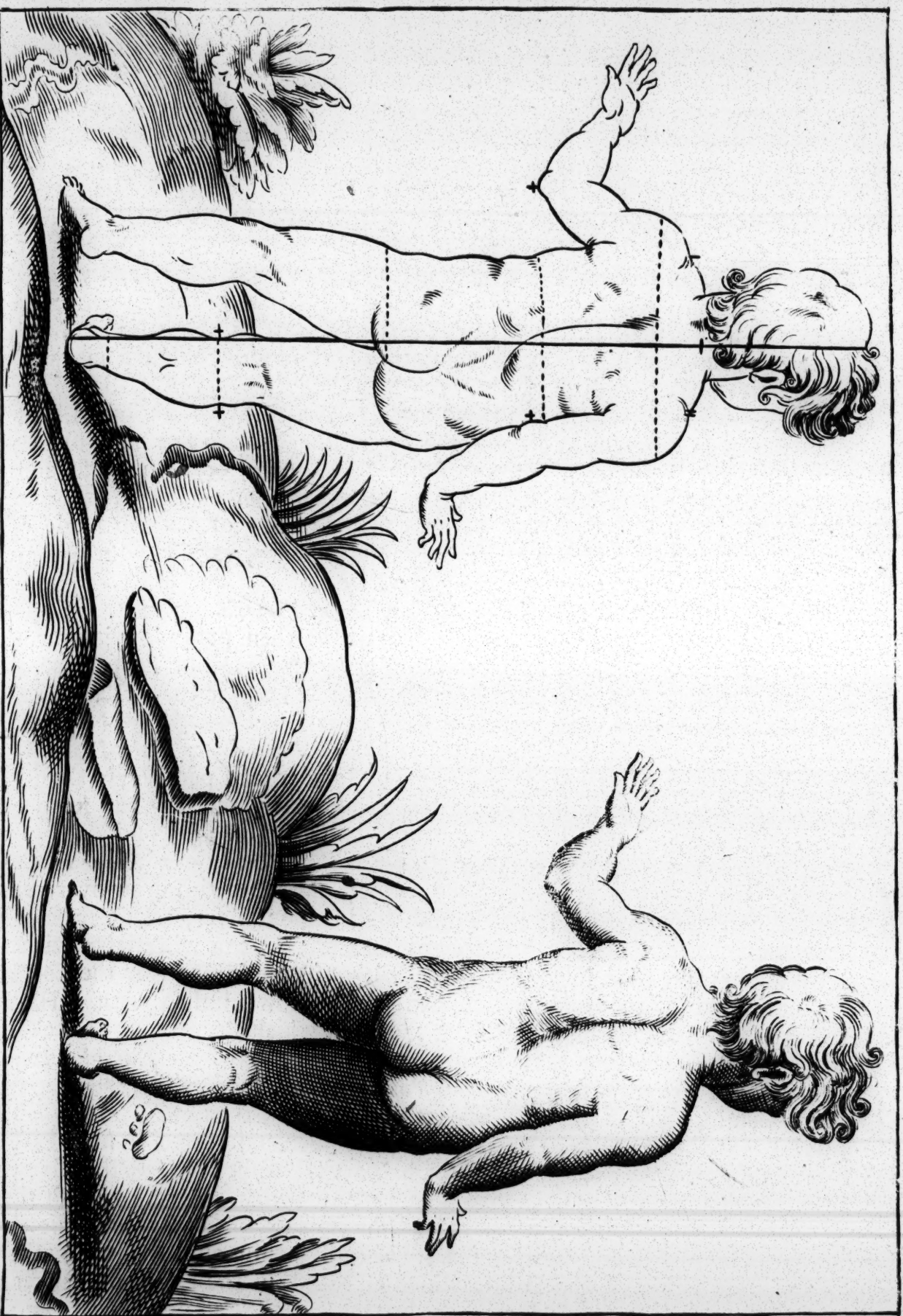
To make another White Varnish.

TAKE three quarters of a pound of Gum Sandriack, mix it with two Quarts of Spirits, and having well shaken it, and stood for about two Days, strain it into another Bottle, and reserve it for use. Take of clear pick'd Mastick the same proportion to an equal quantity of Spirit with the former, and in every thing observe the Rules for making the Sandriack, as to settling, shaking and straining it: Now when you design to varnish a Print, or any thing else with this Varnish, the proportion is to add a double part of Gum Mastick to a single part of Gum Sandriack. And when you have set by your Work for two Days, you may try it, by putting your warm Finger upon it. If you leave the print of your Finger behind you, it is a Sign it is too soft, and a Wash or two of the Sandriack will harden it: If it be too hard, you may use a Wash or two of your Mastick Varnish.

When you come to polish your Work, scrape the Tripolee with a Knife: For fine Work your Rags must be fine, and your Tripolee fine like Powder; and when you come to clear your Work, wash your Tripolee off with a Sponge and Water.

To make a double Size, or Bottom, to lay or settle Silver or Gold upon, call'd an embossed Ground.

TAKE Venice-Ceruse, White-lead, the Plaster of an old Image, or Chalk, any of these made in fine Powder, and then ground with the Glair of an Egg, and a little Water, on a Painter's-stone, maketh a good Bottom to lay under Silver. But when you shall use any of them to lay under Gold, do it with a little Saffron, therewith to make it somewhat Yellow, but beware you put not too much Water thereto, for then it will be over-weak; and if you do over-much Glair to it, then will it be over-stiff, therefore mingle it with Discretion, and look the Size be thick standing, and set the Size, thus tempered and covered, in a Horn, or Shell, in some Cellar, or shadowed place, or under the Earth, where it may stand moist for the space of Seven Days, until it be perfect clammy and rotten, and every Day once stir it about, and you shall well understand, that all the Sizes, the elder they be, and the more clammy and rotten they be, the better they be; for all the Craft is in well making and tempering of the Size; and if there stand any Bells upon the Size, put in Ear-Wax, for it is a Remedy therefore; and before you lay it on your Work, first lay the Size on a Scrow and dry it, and when it is dry bend it, and if it bend and break not, then it is good and perfect; and if it break, put thereto a little Water, to make it weaker, and prove if it cleaveth fast to the Book, and if it do not, then put Glair thereto, and make it more stedfast. The like Size may you make with Gypsum, Bool Almoniack, Red or Yellow Oker, Orpiment, or Masticate, with Brown of Spain, or with Red Lead, if every of them be ground by himself, and tempered, and ordered in like manner and form above written.



*The proportion of a Child behind. The former rule without changing any thing, may be observed in this present figure—
standing backward, and all the proportions and measures which are observed in the former,
serve to this likewise.*

To make a thin Size, or Bottom, to lay or settle Silver or Gold upon, called a single Ground.

TAKE the new Shreds of Glovers Leather, or of new Parchment, for that is best, and seeth them in fair Water, from a Quart to a Pint, that the Liquor be somewhat thick and clammy between your Fingers; then strain the Liquor from the Shreds, and put it, being hot, in some Stone Vessel, and so work it forth before it be cold, and when you lay on Silver or Gold, see that your size be neither too moist nor too dry, but in a mean between both, for dread of impairing your Work. The like Size may you make (without heating them at the Fire) of Glew-water made of Parchment-Glew, for that is best, or with Water gummed somewhat thick with Gum-Arabeck, or of good old Glair, or with the Milk of Green Figs alone, or with the Milk of Spurge, or of Wartwade, or with the Yellow of Milk of Green Salendine, or with the Juice of Garlick, Onion-heads, or Water and Grease of Snails. Upon every of these, may you lay your Leaves of Silver or Gold, having regard that your Ground be neither too moist nor too dry, when you shall lay or settle the same thereupon.

To lay a double Size upon Letters, or upon other Things.

YOU shall, with a Pensil made of Grey-Aimes, or Caliber-Tails, lay on your Size somewhat substantially, or if you will, first thin, and after thicker, and then dry it; and when it is dry, wet it lightly with your Spittle, and then shave it with a sharp Knife, until it be even without Hills; and if there fall any default therein, or else there is more in one Place than in another, lay again your Size on it, and dry it, and engross it, as is said before, and when it is engrossed and made plain, then burnish it with the Tooth of a Calf, of an Ox, or of an Horse, that is made therefore standing in a crooked Stick, and when it is burnished, and made even and shining, then it is ready to lay on it your Gold or your Silver.

To keep Whites of Eggs so long as ye will, without Corrupting, or putting of Arsenick to them.

TAKE the Whites of Eggs, not breaking them in any wise, but take out the Cock-treading, and put to them as much of the best white Wine Vinegar, as shall suffice the quantity of the Whites, leaving it so the space of two Days, then pass it through some Linnen Cloth, without breaking or heating the Whites of the Eggs, leaving it so the space of Eight Days, then strain it again, and put it in a Viol well stopped, to occupy for the purposes abovementioned.

To varnish Prints, or Pictures without polishing.

TAKE of the best white Varnish, and an equal quantity of Varnish made of Mastick and Oil of Turpentine: When these are mixt together, varnish your Picture over with a fine Camel's Hair Brush, 4 or 5 times by the Fire.

To make a Transparent Varnish.

PUT an Ounce of Venice Turpentine into an earthen pot, place it over the Fire, and when dissolved and melted thin, add to it 2 Ounces of Oil of Turpentine, as soon as they boil, take off the pot, and when the Varnish is cool, keep it in a Glass Bottle: Stop the Bottle close.

To temper Brazil, wherewith to Write, Flourish, or Rule Books.

TAKE Brasil finely scraped, or grossly beaten to Powder, and put thereto the Glair of an Egg, or Gum Water, and a little Allum made in Powder, and let them steep a Night and a Day, and then strain out the Liquor, and keep it to the use aforesaid.

The manner how to Flourish or Diaper with a Pencil, over Silver or Gold.

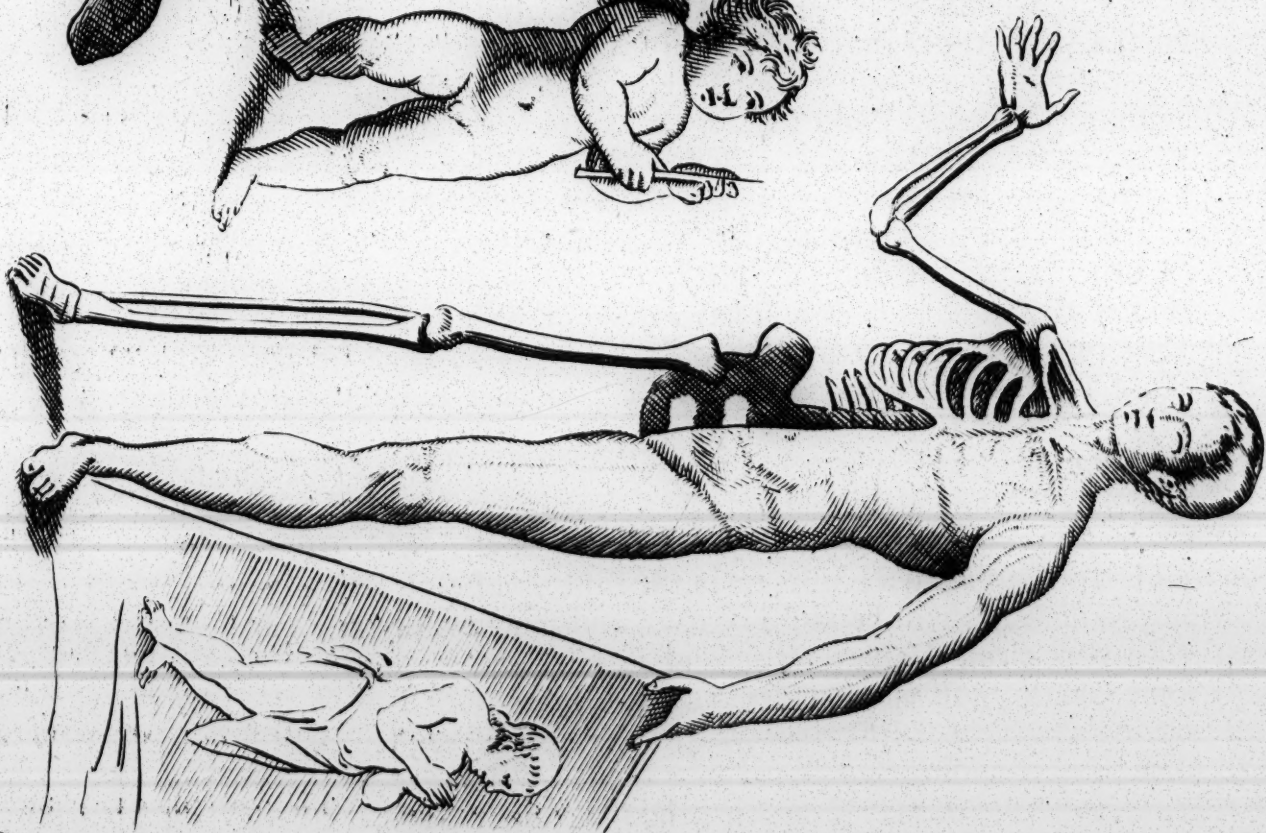
IF you will diaper over Gold, take Yellow Oker, and therewith draw over your Gold with a Pencil, what you will: If you would diaper upon Silver, take Ceruse with a Pencil, and draw or flourish what you will over your Silver. If you will diaper with Gold or Silver upon Colours, take the Juice of Garlick, with a Pencil draw over the Colours what you will, then take and lay the Gold upon it, and press it down lightly with a Hare's Tail, and let it dry half a Day or more; then rub off the Gold which cleaveth not to the Garlick.

To make a kind of Colouring call'd Vernix, wherewith you may Varnish Gold, Silver, or any other Colouring or Painting, be it upon Vellum, Paper, Timber, Stone, Lead, Copper, Glass, &c.

TAKE Benjemin, and bray it well betwixt two Papers; then put it into a Viol, and pour upon it good Aqua Vitæ, that it be above the Benjemin three or four Fingers, and let it steep so a Day or two; then put to it, for half a Viol of such Aqua Vitæ, five or six Chives of Saffron slenderly stamp'd: This done, strain it, and with a Pencil varnish therewith any thing gilded, which will become bright and shining, drying it self immediately, and will continue the Brightness many Years. But if you will varnish on Silver, then take the Almon of Benjemin, that is to say, the White which is found in the midst of Benjemin, dress it with Aqua Vitæ, in the aforesaid manner, leaving out the Saffron. And the said Varnish made with Benjemin and Aqua Vitæ only, is very good to varnish all things, as well painted as not painted; for it maketh Tables and Coffers of Walnut Tree and Ebony to glister, if it be laid upon them, and all other Things, as Works of Iron, Copper, or Tin gilded, or not gilded, for it maketh bright, preserveth, aideth the Colour, and drieth incontinent, without taking any Dust or Filth, you may make it clean with a Linnen Cloth, or wiping the Work with a Fox Tail, the which is better.

To make Colours of all kind of Metals.

TAKE a Bead of Christal, or a Paragon-stone, and beat each of them by it self in a brassen Mortar to fine Powder, then grind them dry each by it self on a Painter's Stone, until the Powder be very fine and small, then grind them again on the same Stone, each by it self



self with a good Glair, and lay some one of them on the Work with a Pen or a Pencil; and when it is well dried, then rub it over with Gold, or with any other Mettal, and you shall have the same Colour that the Mettal is of.

To make Letters of the Colour of Gold, without Gold.

TAKE an Ounce of Orpiment, and one Ounce of fine Chrystal, and beat each of them by it self to Powder, in a Brasen Morter; then grind them well together with Glair upon a Painter's Stone, then it is perfect to write withal.

To make Letters of the Colour of Silver, without Silver.

TAKE an Ounce of Tin, two Ounces of Quick-silver, and melt them together, and then grind them well upon a Painter's-Stone with Gum-water, and write with it.

To make a very good hard Varnish, to varnish a Print withal.

TAKE two Ounces of Gum Sandriack, the whitest you can get, and half an Ounce of Mastick, and about one quarter of an Ounce of Venice Turpentine, put these into a Glass to a pint of Spirit of Wine, which must be the highest Spirit of Wine you can get, and so stop it up, and keep it in the Sun till it is dissolved.

But before you varnish your Picture, steep some Gum-dragon in fair Water, with which you must, with a Hair Pencil, do over your Picture, and when the Varnish is dry, you may polish it over with a Reed, that you may buy at the Turners.

How to varnish Prints with White Varnish.

TAKE a Pannel, or Deal Board, fitted to the Print you intend to varnish, and mix some Whiting and common Size together, but you must warm the Size before it will melt, and with a Four Penny Brush of Hog's-Hair, do it over so often, till it cover the Grain of the Wood, and then polish it even with some Rushes that you may buy at the Turner's, and then moisten your Print with a Sponge dip'd in Water, and with some Paste made of White-Starch or Flower; paste your Print upon the whited Board, smoothing it down with a Paper, between your Hand and the Print, beginning at the middle of the Print first, and so smoothing it outward; and when your Print is dry, either do it over with thin White Starch, or Ising-glass Size, once or twice, and then varnish it by a gentle Fire, so often, till you see it of a good Body, which is about eight or nine times over, and when it is thorowly dry, polish it with Tripoly, and a little linnen Rag and Water, and rub it over with Olive-Oil.

Mr. Wenceslaus Hollar's Ground for Etching in Copper or Brasse, with his Directions how to use it.

TAKE three parts of Virgin-wax, one part of Asphaltum, one part of the best Mastix; if you will, you may take away some third part, or thereabouts, of the Asphalt, and put instead of it, as much Rosin that is transparent and clear, which I hold better than Asphaltum. altogether, for this will make the Ground too black; it is true, you shall better see your stroke when you work, but when you are to stop to some things, which you would have faint, then you shall hardly see your Work, by reason of the Blackness of the Asphalt, when the Work doth appear black also; but the Rosin will make the Ground paler and transparent, thorow which you shall see what you do.

So then beat your Asphalt and Rosin to Powder, as also the Mastix, and mingle them well together, then put your Wax into a clean Pipkin, where nothing hath been before, except such Ground, and set it over a gentle cool Fire, and let it melt, till it beginneth to boil, then put the Asphalt and the Mastix into it, and mingle it altogether, till all be well melted. Then take some Porringer, or such like thing, full of clean Water, and pour that boiling stuff into the Water, provided that the Dregs at the bottom do not go with it; then let it be cold, so as you may work it into a Ball, or what you will; then take a very clean and fine linnen Cloth, double or treble folded, and put into it a piece of the Ground, as big as a Walnut or more, and tie it with something till you have occasion to use it.

Now for the Copper, that must be well polished, but though it be never so well polished, you must (before you put the Ground upon it) rub it over with a Coal, which must be prepared thus, viz.

Either burn some Charcoals, and when they are well kindled, take them and put them into cold Water, they that shall sink are the best, they that shall swim are naught, and take heed that there be no outside or crust left on the Coal, for that will make Scratches, therefore it must be well scraped off with a Knife, or burnt Billets of Beech Wood, according to the former Directions, those Coals will be more gentle; and when you have rubbed the Copper with these Coals, then pour clean Water over it, and let the Copper standing sloping till it be dry; then scrape some Chalk upon the Copper, and rub it off with a very clean Rag; that done, there must nothing touch the Copper till you put the Ground on, which must be done thus, viz.

Put into some Fire-pan some Small-coal (for the Charcoals are too hot) lay down the Copper over that, so as the Fire may have Air; then take your Ground tied up in a Linnen Rag, and rub up and down the Copper, neither too thick nor too thin, but so as sufficiently may cover the Plate; then take a Feather of the Wing of a Duck, or some other Bird, that have stiff Feathers, and so spread the Ground as smooth as possibly you can, first, all one way, then cross and cross again, till it be well to your Eye, and take heed all the while, that your Copper be not too hot; for then the Moisture of the Ground is burned away, which will cause the Ground to break in Etching. That done, let it be cold, then grind some White Lead with Gum Water, and mark, that so much Gum as big as a Cherry-stone, will serve for a

piece of White Lead as big as a Nutmeg, or more, but you must remember to put as much Water amongst it, as that the White may conveniently go out of your Pencil, and spread over the Plate; then you must have a good big Pencil or Brush, as the Painters do use, the Hair of which in compass may be about the Bigness of a Walnut, or more, especially for your great Plates, with that strike twice or thrice cross over the Plate, till it lieth even; then you must have another Pencil or Brush bigger than the first, but smooth, made of Squirrels Tails, with that you may smooth gently the White, which you could not do with the other Brush, and so let it dry.

Then take your Design, after which you are to work, and scrape on the backside thereof some red Chalk all over, and then take a soft small Coal or Charcoal, and rub it over the red Chalk, till both mingle together; then take some hard Brush, or a great Pensil that is very stiff; and rub it till all be fine and even, and so lay the Design upon the Copper; and with a blunt Point of a Needle, draw the Out-strokes; and that done, take off your Design, and so go to work: But if you would preserve the Print or Drawing you would copy, from being soil'd on the backside, you may rub over a piece of Venice Paper with Red Chalk, according to the former Directions, and so put your Print on that; by which means your print will be kept clean.

You must have commonly three or four sorts of Needles, some bigger and some smaller, which must be put into a little stick of the thickness of a pen, and on the other end a pencil to sweep off the Ground that will rise up where you have wrought it away. To make the bluntest Needles, you must rub them on the backside of a plate; the finest Needles you must whet gently on a fine Whetstone, till it be a very small point; but let it not be too sharp, but blunt it on a Table-book Leaf, or some such thing; and always when you do leave your Work, be sure not to let your plate stand open, but wrap it up in a paper, for the Air will in time corrupt the Ground, and take out the moisture from it, which will be prejudicial in Etching, and subject to danger, especially in Winter time, when you commonly must keep a good Fire when you work, otherwise your Ground will leap away.

When you are going to Etch, then take some green Wax, and melt in some little pipkin, then with a pencil cover all the four Edges of the Copper, then take more of the Wax, and frame it into long flat pieces, in a shape of a Ruler, but nothing so broad, put them along the Edges, where you have done with your pencil, then you must have a little piece of a pencil Stick, or some such thing, made sharp underneath the broad way, not point way, with the help of that make your Wax stick to the Copper, still stopping it as you go along round about it; if the Work be fine, take Aqua fortis of 3d. the Ounce, and put it to some Wine Vinegar, but take at least 2 parts of Wine Vinegar to one part of Aqua fortis; but if the Work be coarse, requiring much deepness, then you may take of the Aqua fortis alone, and such thing as you would have faint, you must pour off the Aqua fortis off the plate, and put on in the room of it only fair Water, and so let the plate stand till it be dry, which done, melt some Candles Grease with a little of your Ground, and so stop such places with a pencil dipt in that mixture, as you would have faint, then pour on your Aqua fortis again, the same as was before, and do that so often as occasion will require, then lay the Copper on the Fire, till the Ground shall melt, and wipe it off with a Rag, then rub the plate with a little piece of a Beaver Hat dipt in Oil, and so your plate is done.

How to make hard Varnish for Etching with Aqua fortis.

TAKE five Ounces of Greek pitch, or (for want of that) Burgundy pitch, five Ounces of Rosin of Tere, or Calosomum, or for want of that, ordinary Rosin, melt them together upon a gentle Fire in a new earthen pot, well varnished or leaded, and being very clean; these two Things being first melted, and well mix'd together, put into them four Ounces of the best Nut Oil, mix them well together upon the same Fire for the space of a full half Hour, and let them boil well, then let this mixture cool a little upon a softer Fire, and afterwards touching it with the end of your Finger, it will rope (if it be boil'd enough) like a gleuy Syrup; then take the pot from the Fire, and (the Varnish being a little more cooled) strain it thorow a fine Linnen Cloth or Taffaty, into a well varnished earthen pot, or else put it into a thick Glass Bottle, or any other thing that will not drink it up, and stop it well: Varnish thus made, will last Twenty Years, and will be the better the longer it is kept.

A Catalogue of several Maps and Pictures, being very pleasant and delightful Ornaments for Houses, Studies, or Closets, the which are Printed and Sold by John Garrett at his Shop as go up the Stairs of the Royal Exchange in Cornhill.

A Most exact Map of the World in four Sheets, with Descriptions at the bottom, and Landskips on the sides, being almost six Foot long, and above one Yard deep, being a fit Ornament for a Chimney-Piece, which being set on Cloth, and Coloured with the Rowls and Ledge on it. Price 9 s.

A large Map of *England* and Principality of *Wales*, containing all the Shires, Capital Cities, Market Towns and Villages, Castles, Rivers, Bridges, and other remarkable Places, as also the High Ways, principal Roads and By-Roads, it being pasted on Cloth, with Descriptions and Borders on each side the Map, is above 5 Foot long, and above 4 Foot and half deep, Colour'd, with Rowl and Ledge to it. Price 10 s.

Another Map of *England* and *Wales*, with part of all the adjacent Country, as *Scotland*, *Ireland*, *Holland*, and *France*, it being above two Foot and half long, and two Foot deep. Price uncolour'd, 1 s.

A Map of the Prospect of *New-Bedlam*, in three large Sheets, curiously engraven by Mr. *White*, four Foot long, and two Foot deep, very fit for a Chimney-Piece.

A large Picture of a Ship, call'd, *The Royal Prince*, finely Engraven, it being above two Foot long, and one Foot eight Inches deep. Price 1 s.

Another Sea-piece of *English* Ships, designed by a famous Master, and curiously engraven.

A New Map of the World in divers Projections, printed on a large Sheet of Elephant Paper, with the Face of the Sun, and the Face of the Moon, wherein several Errors in former Maps are corrected.

Eleven several Pictures of pleasant and delightful Landskips and Sea-Pieces, for Sashes, for to be set before Windows, printed on Royal Paper, Price uncolour'd 6d. per Picture.

A Map of the World, in two Sheets, with Descriptions.

A Map of the North Pole, in one large Sheet.

The four Parts of the World, in four several Sheet Maps, as *Europe*, *Asia*, *Africa*, and *America*.

The Maps of *Spain*, *France*, and *Scotland*, Seventeen Provinces, *Germany*, *Italy*, printed on several Sheets.

A Map of *Canaan*, as it was possessed by the Twelve Tribes, as also of the chiefest Actions happening in every several Tribe, all tending to this end, to make more plain the Histories of the holy Scriptures.

The Spiritual Warfare in one large Sheer, with Descriptions.

A Thankful Remembrance of God's ways of Mercies from several Popish Plots, since the Reign of Queen *Elizabeth*, printed in a large Sheet of Royal Paper, with two Sheets of Verses pasted on the sides.

The Description of the Philosophers Head, in Latin.

The Picture of King *Charles II.* on Horseback, curiously Engraven.

Twenty five several sorts of Flourishes for Scholars to write Pieces in, eleven of each of them are printed upon whole Sheets of Paper, and 14 of them are printed upon 14 half Sheets of Paper.

The Kingdom of *Ireland* and Principality of *Wales*, exactly described, with every Shire and small Towns in every one of them, in 6 Maps, portable for any Man's Pocket, with Roads:

A Direction for the *English* Traveller, by which he may be enabled to Travel all about *England*.

A Book of the whole World, or the Orb Terrestrial, described in 4 plain Maps, containing all the known and most remarkable Capes, Ports, Bays, and Isles, Rocks, Rivers, Towns, and Cities, &c. in 4to.

A Book containing 48 Emblems, done after *Callor's* way of Etching, with ingenious Verses.

The New Hornbook, or a pleasant way to teach Young Children to know their Letters.

A large Copy-Book, by that Excellent Master of Writing, *Peter Gery*, containing 42 Copies, printed in large Folio.

Cocker's Magnum in Parvo, or the Pen's Perfection, engraven in Silver, and enriched with Variety of rare Examples, of all the curious Hands written in this Kingdom, and the Neighbouring Nations.

Cocker's Introduction to Writing, containing rare Examples for Youth to Write by.

A picture of a Ship, printed on a large Sheet of Royal-paper, with a Description at the bottom of the Tackling belonging thereunto, distinguished by 120 Figures, and made plain to any ones Understanding, in the Description at the Bottom.

A new Copy-Book of Round Hand, curiously engraven, printed in large Quarto.

A new and most pleasant Game of the Snake, printed on a Royal Sheet of paper, with Directions.

The Picture of *Windsor* Castle, printed on a Sheet of Elephant paper.

The Picture of *Bow-Steeple* in *Cheapside*, printed on 2 Sheets of Royal paper.

A Book of pleasant Landskips and Sea-pieces, containing 8 Leaves, which shew very curiously being Coloured.

A Book containing 27 Leaves, printed in Folio, of the Kings of *England* from *William* the Conqueror.

A Book of the *Roman* Emperors on Horseback, containing 12 Leaves, printed on half Sheets.

The Maps of *Kent*, *Hertfordshire*, and *Middlesex*, printed on 1 sheet each of them.

A Book of the old Names of *Europe*, containing 11 several Maps, being very necessary to the furtherance, help, and light of the profitable and pleasant Study of History, Ecclesiastical, Poetical, or Chronological.

A delightful way to teach young Children to know their Letters, it being a pleasant Book of pictures, containing 24 Leaves, of all the Letters of the Alphabet, lively represented in several Histories, all taken out of the Bible, which may also serve any one to learn to Write, there being the great and small Letters, and joining Copies of Round Hand.

Cocker's Tutor to Writing and Arithmetick, being a new and most easie Method, so easie, that the meanest Capacity may understand it at first sight.

Three prints of Black Lines to help any one to Write even without Ruling the paper, the Lines being exactly the height of the Letters you write.

With many other things, too many to be here inserted,

